

SECTION 1: REPORT IDENTIFICATION

Report Number:	TNDT-UT-BB-____	Report Date:	DD / MM / YYYY
Revision No.:	00	Page:	__ of __
Customer Name:		Work Order / P.O.:	
Job Description:	Ultrasonic Testing – Babbitt Bearing Bond Integrity & Defect Detection		
Location of Inspection:			
Inspection Stage:	In-service / Overhaul / Incoming (circle applicable)		

SECTION 2: COMPONENT / SPECIMEN DETAILS

Part / Component Name:	Babbitt Bearing	Part / Drawing No.:	
Serial No. / Unique ID:		Heat / Lot No.:	
Bearing Type:	Journal / Thrust / Split (circle)	Quantity:	
Shell Material:	Steel / Bronze / CI	Babbitt Alloy Grade:	Sn-Sb-Cu / Pb-based
Babbitt Lining Thk (nom):	__ mm	Shell Thickness (nom):	__ mm
Bearing OD / ID:	OD: __ mm ID: __ mm	Bearing Length:	__ mm
Surface Condition:	Machined / As-cast / Ground	Assembly / Coupling Ref.:	

SECTION 3: APPLICABLE DOCUMENTS & STANDARDS

S.No.	Document / Standard	Title / Remarks
1	ASTM E114	UT Examination by Contact Method – Pulse Echo
2	ASTM B23	White Metal Bearing Alloys (Babbitt)
3	ASNT SNT-TC-1A / CP-189	Personnel Qualification & Certification in NDT
4	ISO 4386-1 / ISO 4386-3	Plain Bearings – Bimetallic bearing shells – UT testing
5	Customer / OEM Specification	Reference No.: _____
6	TNDT-UT-BB-PROC-001	Trinity NDT Internal Written Practice / Procedure

SECTION 4: EQUIPMENT & CALIBRATION DETAILS

4.1 Ultrasonic Flaw Detector

Instrument Make:		Model:	
Serial No.:		Asset / Cal. Tag No.:	
Cal. Due Date:		Calibrated By:	

4.2 Transducer / Probe Details

Parameter	Probe 1 – Primary	Probe 2 – Confirm / Angle	Remarks
Probe Type	Normal / Straight Beam	Angle Beam / Immersion	
Frequency (MHz)	5 / 10 / 15 MHz		
Element Size (mm)			
Probe Angle (°)	0° (Normal)		
Make / Model			
Serial No.			

4.3 Couplant & Reference Standards

Couplant Used:	Glycerin / Ultrasonic Gel / Oil Brand: _____
Reference Block Type:	Step Wedge / IIW Block / Custom Babbitt Reference Block
Reference Block ID:	
Reference Block Cal. Due:	

SECTION 5: EXAMINATION PARAMETERS

Parameter	Value / Setting
Examination Method	Pulse Echo – Contact (A-Scan)
Scan Mode	Manual Contact / Semi-automatic
Sound Velocity – Babbitt (m/s)	~2300–2700 m/s Verified value: _____
Sound Velocity – Steel Shell (m/s)	~5920 m/s Verified value: _____
Gain / Sensitivity Setting (dB)	
DAC / Reference Level (dB)	
Recording Level	≥ 20% DAC or per applicable standard
Rejection / Evaluation Level	≥ 100% DAC or per customer specification
Scan Index / Overlap (%)	≥ 10% of probe diameter
Pulse Repetition Rate	
Examination Coverage	100% of bond interface area unless otherwise agreed

NOTE: Calibration checks shall be performed at the start, every 4 hours during testing, and at the end. Any drift > 2 dB requires re-examination of all parts tested since the last valid calibration.

SECTION 6: INSPECTION PERSONNEL

#	Name	Cert. Level	Method	Cert. No.	Expiry	Signature
1		UT Level II / III	UT			
2		UT Level II / III	UT			

SECTION 7: EXAMINATION RESULTS

7.1 Scan-by-Scan Result Record

S.No.	Part ID	Zone / Region	Location Ref.	Depth (mm)	Indication Type	Amp (% DAC)	Extent (mm)	Bond (%)	A / R	Remarks
1										
2										
3										
4										
5										
6										
7										
8										

NOTE: Indication Codes: DB = Disbond/Delamination P = Porosity V = Void C = Crack NI = No Indication OT = Other (specify in Remarks) A = Accept R = Reject

7.2 Bond Quality Summary

Part ID	Total Bond Area (mm ²)	Unbonded Area (mm ²)	Bond Integrity (%)

NOTE: Acceptance Criterion: Minimum _____% bonded area per applicable standard / customer specification. No single unbonded area to exceed _____ mm².

SECTION 8: DEFECT SKETCH / SCAN MAP

BEARING SCAN MAP / DEFECT LOCATION SKETCH
 (Attach A-scan printouts, C-scan images or hand-drawn defect map in this area)

[Sketch / Image Area – Min. 60 mm × 120 mm]

LEGEND: Disbond/Delamination [hatched] Porosity/Void [dot] Crack [X] Scan Path [arrow] Region of Interest [box]

SECTION 9: CALIBRATION RECORDS

Check	Date & Time	Probe / Freq.	Ref. Block	Cal. Gain (dB)	Ref. Amp (%)	Velocity (m/s)	Operator Sig.
START							

MID							
END							

SECTION 10: ACCEPTANCE CRITERIA & FINAL SUMMARY

10.1 Acceptance Criteria Applied

Criteria Parameter	Specified Limit
Standard / Specification:	ISO 4386-3 / ASTM E114 / Customer Specification
Max. Unbonded Area (per zone):	_____ mm ²
Max. Single Defect Size:	_____ mm
Minimum Overall Bond Integrity:	_____ %
Max. Linear / Planar Indication:	

10.2 Overall Examination Result

Total Parts Submitted	Parts Accepted	Parts Rejected	Parts for Re-test / Repair

OVERALL DISPOSITION	<input type="checkbox"/> ACCEPTABLE – No rejectable indications found <input type="checkbox"/> CONDITIONAL – Refer to Section 8 and remarks <input type="checkbox"/> NOT ACCEPTABLE – Rejectable indications found
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SECTION 11: REMARKS & RECOMMENDATIONS

(Attach additional sheets if required)

SECTION 12: AUTHORISATION & SIGN-OFF

Role	Name (Print)	Signature	Date
Inspector (UT Level II):			
Reviewer (UT Level III):			
Approved By (QA / QC Manager):			
Customer Witness (if applicable):			

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