



INSPECTION REPORT



Self-propelled boom lift

Client:	Botany Access Pty. Ltd.		Test Date:	9 th June, 2020
Client Contact:	Paul Borg		Plant No:	KB3001
Location:	Newcastle Access, Kurri Kurri NSW		Purchase Order:	N15179
Subject:	Inspection of 20FT Genie boom lift KB3001 (S/N: Z30N09 - 11936)		ISA Job No:	20521
Inspected by:	Rory Hafey	Jordon Farlow	ISA Report No:	20521-1
			Revision:	0
Reported by:	Rory Hafey		Date of Issue:	19 th June, 2020

SUMMARY:

As requested, an in-service periodic inspection was carried out on the following: -

Make	Genie	D.O.M	2008
Model	Z-30/20N	SWL	227KG
Serial Number	Z30N09 - 11936	Registration	N/A

Technician:	Rory Hafey	Signature:		Qualifications:	AINDT Level 2 Cert.
Reviewed by:	John Parker	Signature:		Qualifications:	AINDT Level 2 Cert.

SUMMARY:

The inspection consisted of Visual Inspection, Magnetic Particle & Ultrasonic testing techniques. The purpose of this inspection was to determine if any cracking / damage was present after in-service period.

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Report No:	20521-1	Subject:	Inspection of 20FT JLG boom lift – KB3001 (S/N: Z30N09 - 11936)

JOB PHOTOGRAPHS:



Photos 1 to 4 – Overview of typical inspected areas

SCOPE OF WORK:

This inspection includes but is not limited to the following: -

- Visual / tactile inspection of critical areas as nominated in relevant Australian Standards
- Non-destructive testing of structural welded connections and suspect areas
- Ultrasonic testing of all nominated bolts / pins / shafts



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RESULTS:

Component Inspected	Area to inspect	Vis	Method		Results
			MT	UT	
Lower boom base section	Collar Connections	X			Nil cracking detected
	Pin Boss Welding	X			Nil cracking detected
	Luffing Connection Welding	X			Nil cracking detected
	Boom Pivot Connection	X			Nil cracking detected
	Base	X			Nil cracking detected
	Structural Welding	X			Nil cracking detected
Main Boom Butt & Knuckle	Collar Connections	X			Nil cracking detected
	Pin Boss Welding	X			Nil cracking detected
	Luffing Connection Welding	X			Nil cracking detected
	Boom Pivot Connection	X			Nil cracking detected
	Knuckle Connections	X			Nil cracking detected
	Structural Welding	X			Nil cracking detected
1 st Tele Section	Pin Bosses	X			Nil cracking detected
	Seam Welding	X			Nil cracking detected
	Collar Connections	X			Nil cracking detected
	Structural Welding	X			Nil cracking detected
Jib Boom Section	Structural Jib Arms	X			Nil cracking detected
	Boom to Jib Connection Knuckle	X			Nil cracking detected
	Pin Bosses	X			Nil cracking detected
	Cylinder Connection Clevises	X			Nil cracking detected
	Basket Knuckle Connections	X			Nil cracking detected
Basket / Knuckle	Pin Bosses	X			Nil cracking detected
	Basket Frame	X	X		6 areas of cracking, 10-40mm in length (see photos 5 to 10)
	Knuckle Connections	X			Nil cracking detected
	Basket Mounting Bracket	X			Nil cracking detected



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RESULTS: (Continued)

Component Inspected	Area to inspect	Method			Results
		Vis	MT	UT	
Wheel & Steering Components	Front Wheel Connection Arms	X	X		Nil cracking detected
	Steering Linkage Clevises	X			Nil cracking detected
	Wheel Hubs (accessible)	X	X		Nil cracking detected
Chassis	Lifting points (4 off)	X	X		Nil cracking detected
	Cross Members	X	X		Nil cracking detected
	Slew Base Plate Welding	X	X		Nil cracking detected
	Underside Structural Welding	X			Nil cracking detected
	General Surface	X			Nil cracking detected
Super Structure	Pin Bosses	X			Nil cracking detected
	Counter-Weight Mounts	X			Nil cracking detected
	Slew base welding	X			Nil cracking detected
	Boom Pivot Frame	X			Nil cracking detected
	Luffing Cylinder Connections	X			Nil cracking detected
Pins / Bolts / Shafts	Fixed Slew Bolts			-	Nil access
	Rotating Slew Bolts			-	Nil access
	Luffing Cylinder Pins (4 off)			X	Nil cracking detected
	Boom Pivot Pins (1 off)			X	Nil cracking detected
	Articulation Basket Pin (1 off)			X	Nil cracking detected
	Boom Linkage Pins (9 off)			X	Nil cracking detected
	Tele Pin (2 off)			X	Nil cracking detected
	Jib Cylinder Pins (2 off)			X	Nil cracking detected
	Basket Linkage Pins (2 off)			X	Nil cracking detected
	Steering Pins (6 off)			X	Nil cracking detected
Wheels	General structure (4 off)	X			Nil cracking detected

TEST LIMITATIONS:

Component was inspected in disassembled condition, limiting access to some areas. Paint & other contaminants may reduce test sensitivity. All areas requiring Magnetic Particle Inspection had the paint removed prior to inspection.



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JOB PHOTOGRAPHS:



Photos 5 to 8 – Overview cracking found on basket frame

Final Inspection – 19th June, 2020

After removal of all nominated cracking, and re-welding of new connections.

Nil further cracking was detected and new welding complies with AS1554.1.2014



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TEST PARAMETERS:

Visual Inspection

Test Specification:	AS3978-2003	Stage of Manufacture:	Post service
ISA Procedure:	ISA-LTP-12	State of Assembly:	Partly disassembled
Product Specification:	Initial	Report all cracking	Surface coating complies with procedure: Acceptable - Yes
	Final	Not applicable	
Material Specification:	Carbon Steel – Unknown Grade	Light Source:	Natural & Artificial
Weld Process:	GMAW	Light Strength:	White > 1000 Lux
Surface Preparation:	Wire brushed	Technical Visual Acuity:	Current - record on file
Surface Condition as per procedure:	S2	Reference Dwg / Sketch:	N/A

Magnetic Particle Inspection

Test Specification:	AS 1171 - 1998	Magnetising Unit:	E046 AC Yoke Magnet
ISA Procedure:	ISA-LTP-01	Magnetisation Method:	Magnetic flow – AC yoke
Product Specification:	Initial	Report all cracking	Magnetism: Sustained
	Final	Not applicable	Ultraviolet Light Unit: N/A
Material Specification:	Carbon Steel – unknown grade	Current:	Mains AC
Weld Process:	GMAW	Heat Treatment Condition:	Not specified
Surface Preparation:	Paint locally removed	Pole Spacing:	75 – 300 mm
Surface Condition:	Suitable for inspection	Particle Type:	Ardrox 800/3
Demagnetised /	No	Background:	Ardrox 8901W
Gauss Reading:	Not applicable	Light Source:	Natural & Artificial
Measurement of Uncertainty (MU) value	+ / - 3.1mm	Light Strength:	White > 1000 Lux



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TEST PARAMETERS (Continued):

Ultrasonic Inspection - Pins, Bolts & Shafts

Test Specification:	AS 1065-1998 (Ref Only)		Scanning Method:	0 degree only	
ISA Procedure:	ISA-LTP-15		Surface Examined:	End Face (One End Only)	
Product Specification:	Report all cracking		Surface Roughness:	< 6.3µm Ra	
Material Specification:	Carbon Steel – unknown grade		Calibration Block:	100mm Bar (BAR 01)	
Surface Preparation:	As cleaned		Ultrasonic Kit No:	E022 - USM 36X	
Surface Condition:	Suitable to test		Couplant:	Aquasonic Gel	
Reference Dwg. / Sketch Provided?	No		Reference Dwg. No:	N/A	
Measurement of Uncertainty (MU) value:			+ / - N/A		
Probe I.D & S/N:	Crystal Size:	Actual Angle:	Frequency:	Index Point (mm):	Beam Alignment:
MB4S 52875	10mmØ	0°	4MHz	-	-

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