

# ***Warringah Cranes and Transport***

## ***Crane Fleet***

Brand	Kato
Model	NK-250E-III
Capacity	25 ton (3 Axle)
Year	1990
Rego	RIT390 (May 2017)
Last Major Inspection	Nov 2013 25 year Major Rebuild
Hours	11,685
Kilometres	8,851



Underwent full restoration, and extensive rebuild in Nov 2013 (over \$360k spent) and body is as new condition. New Slew Ring and rebuilt hydraulics. Comes complete with full set chains, slings, timbers, along with 2 hooks, and is ready to operate

Registration (NSW) to May 2017







# AINSCOUGH CRANE HIRE LIMITED

## Kato NK-250E-III

### Main Boom Duties

Working Radius (m)	With fully extended outriggers - over side and over rear						
	10m Boom	13.5m Boom	17m Boom	20.5m Boom	24m Boom	27.5m Boom	31m Boom
2.5	25	17.5	14.5				
3	25	17.5	14.5	9.5			
3.5	20.6	17.5	14.5	9.5	7.5		
4	18	17.5	14.5	9.5	7.5	6.5	
4.5	16.3	15.8	14.5	9.5	7.5	6.5	
5	14.85	14.4	13.25	9.5	7.5	6.5	6
5.5	13.65	13.25	12.2	9.5	7.5	6.5	6
6	12.3	12.2	11.3	9.5	7.5	6.5	6
6.5	11.2	11	10.5	9.5	7.5	6.5	6
7	10.25	10	9.8	8.8	7.5	6.5	6
7.5	9.4	9.2	9.1	8.3	7.5	6.5	6
8	8.65	8.45	8.35	7.8	7	6.1	5.65
8.3	8.25	8.05	7.95	7.5	6.75	5.9	5.45
9		7.2	7.1	6.95	6.25	5.45	5.05
9.5		6.65	6.5	6.55	5.9	5.2	4.8
10		6	5.9	6.2	5.6	4.95	4.6
11		5	4.85	5.25	5	4.5	4.2
11.8		4.3	4.2	4.6	4.65	4.15	3.95
12			4.1	4.45	4.6	4.1	3.9
14			2.9	3.25	3.4	3.5	3.35
15.3			2.3	2.7	2.85	3	3
16				2.4	2.6	2.75	2.85
18				1.75	1.95	2.1	2.15
18.8				1.5	1.75	1.9	1.95
20					1.45	1.6	1.7
22					1.1	1.2	1.3
22.3					1	1.15	1.25
24						0.9	0.95
25.8						0.65	0.75
28							0.5
29.3							0.4

# AINSCOUGH CRANE HIRE LIMITED

## Kato NK-250E-III

### Fly Jib Duties

Boom Angle (°)	With fully extended outriggers - Over side and over rear					
	31m boom + 8m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working Radius (m)	Load (t)	Working Radius (m)	Load (t)	Working Radius (m)	Load (t)
80	8	2.75	8.8	1.95	10.2	1.35
76	10.5	2.75	11.5	1.95	13	1.35
75.5	11	2.65	12	1.9	13.5	1.35
70	14.6	2.07	15.7	1.53	16.8	1.15
65	17.7	1.73	18.8	1.32	19.6	1.02
60	20.6	1.5	21.7	1.15	22.3	0.9
54	23.8	1.28	24.8	1	25.4	0.8
50	25.7	0.94	26.6	0.9	27.3	0.75
48.5	26.4	0.84	27.3	0.8	27.9	0.73
44	28.3	0.62	29.1	0.6	29.8	0.58
40	30	0.48	30.6	0.45	31.2	0.44

Boom Angle (°)	With intermediately extended outriggers - 360° full range With fully extended outriggers - over front					
	31m boom + 8m Jib					
	Offset 5°		Offset 17°		Offset 30°	
	Working Radius (m)	Load (t)	Working Radius (m)	Load (t)	Working Radius (m)	Load (t)
80	8	2.75	8.8	1.95	10.2	1.35
76	10.5	2.75	11.5	1.95	13	1.35
75.5	10.8	2.6	11.8	1.9	13.5	1.35
72	12.9	1.77	14	1.6	15.6	1.15
70	14	1.45	15.3	1.28	16.7	1.07
65	16.9	0.75	18.2	0.67	19.5	0.58
61	19.1	0.35	20.3	0.32	21.5	0.3

## Crane - Recertification Compliance Plate

This plate indicates that the crane described below has been assessed and inspected for compliance with the Major Inspection requirements of AS 2550.1 - 2011 clause 7.3.5 and is deemed to comply.

Crane Make : **Kato** Model: **NK 250 III** Manufactured: **1990**

Serial No.: **7725253** Plant Registration No. : **MC 6-49192/02/0**

Certification Date : **Oct 2013** Hours: **8851** Cert No.: **491-01**

Maximum remaining operational life before reinspection (refer also duty requirements)

- Mechanical ; **Oct 2023** or maximum hourmeter reading of **18000 hrs**

- Structural ; **Oct 2038**

**P.R.Spry & Associates Pty Ltd**

[www.pspry.com.au](http://www.pspry.com.au)

# *P. R. Spry. & Associates Pty Ltd*

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## **Major Inspection Report**

of

### **Hydraulic Truck Crane**

Type:

**Kato**

model: **NK-250E III**

Serial No. **7725253**

Company performing Overhaul

**A.D. McCallum & Sons Pty Ltd**

Crane owner:

**Warringah Crane & Transport Services Pty Ltd**

Date: 1 Nov 2013  
Doc: 491-R02  
Rev 01: 24 Jan 2014

## **Crane Major Inspection Certificate**

Certificate No. **491-01**

*(This certificate covers the mechanical and Structural major inspection of the nominated crane)*

Crane type: Hydraulic Truck Crane Crane manufacturer: Kato

Crane Model: 250E III Crane Serial No. 7725253

WorkCover N.S.W. plant registration No. MC 6-49192/02/0

Manufacture Date ; 1990

Design Registration No.: Pre-2001

Owner's name: Warringah Crane & Transport Services Pty Ltd

Address 38 Myoora Road, Terrey Hills NSW

Inspection date(s) 24/01/13 to 12/10/13

Name of competent person Peter R Spry

Address of competent person 46 Fluorite Place, Eagle Vale, N.S.W 2558

Telephone number (02) 9820 7327

Professional Qualifications of competent person  
B.E. (hons) F.I.E.Aust. C.P.Eng. N.P.E.R., R.P.E.Q

Experience of competent person

30 years design, analysis, verification and inspection of cranes. On-going involvement with crane association (CICA, CraneSafe), crane standards (Australian Standards committees ME005 etc) and active involvement in governmental plant safety initiatives (National and N.S.W state).

### **Competent person statement:**

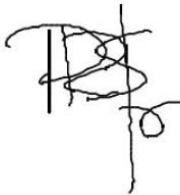
I hereby certify that the crane, serial number 7725253, has received a major inspection in compliance with the requirements of AS 2550.5 -2002 & AS 2550.1-2011 and generally in accordance with the relevant maintenance, Codes of Practice, sound engineering principals and is safe to use. This inspection was predominately both a mechanical inspection and structural. Other systems were reviewed by duly qualified and component persons i.e. electrical, hydraulic technicians and a functional testing performed under my supervision.

**Further Inspection requirements**

This crane should undergo a further **Major Mechanical inspection** in **October 2023** (or at 18,000 hrs of operation whichever occurs first) and a **Major Structural inspection** before **October 2038** unless the duty or condition of significantly altered. Normal maintenance and routine inspections are a further requirement as is periodic (12 monthly) inspection all in compliance with the manufacturer's requirements and as dictated by AS 2550 and good work practices.

*Competent person signature;*

*Date:*



14 October 13

## 1) INTRODUCTION

The Kato Hydraulic Truck Crane serial Number 7725253, underwent a major inspection for compliance with statutory requirements and continued safe operation of the crane.

This report is a "short form report" intended to outline this review and the overhaul of the above crane in order to meet the requirements of a major mechanical and structural inspection as dictated by AS 2550, it is not intended to override the requirements for;

- preoperational inspection
- Routine and maintenance inspection
- Periodic inspection
- Normal operational requirements for safe use or
- Assessment for changed operation.

It is also not intended to override the requirements or recommendation of the manufacturer, national, state or site safe use practices.

This crane was originally sold as new to Northern Beaches Cranes Pty Ltd in 1990, its full history has not been researched but its current owner Warringah Crane has had the crane a number of years. Due to the age and condition of this crane the amount of work required to overhaul this crane was relatively significant and repair or replacement occurred to a number of major subsystems. These are further elaborated below.

## **2. Inspection & Overhaul responsibilities**

The contractor performing the bulk of the inspection and overhaul was performed by A.D McCallum & Sons (ADM) at Wilberforce N.S.W. This company has been performing overhaul and maintenance on this class of equipment for many years and is well versed in the requirements of mechanical inspection and repair in general and specifically with regard to mobile cranes.

Trade staff supervision was performed in the most part by Mr Brian Taylor with engineering supervision being my responsibility.

Where specialist inspection was required this subcontracted, these include;

- (a) HVT Inspection Services Pty Ltd – NDT
- (b) Enzo's Auto Electrics Pty Ltd, - Load moment indicator repair and calibration, etc.

Further details are provided in the Appendix C, with reference to relevant scope of work.

### **3.Scope of Work**

The details of the work performed are outlined in the appendix A – Work List, with further details of the resulting work given in Appendices B & C.

Whilst a crane is required to comply with the standard applicable at the time of its original manufacture, the requirement of a major inspection only include bring the crane up to the latest standards “where practicable” (i.e. standards are not applied retrospectively), this is interpreted as follows:

- (a) Bring items that are “safety” updates up to the required standard.
- (b) Where items or subsystems require major repair or replacement the latest or current standard is used.
- (c) Items that are as per the originally supply and the latest standards have more stringent requirements; the updating is at the owner’s discretion.

### **4) CONCLUSION & RECOMMENDATIONS**

I am satisfied that the work performed on the strip-down, inspection (e.g. NDT), repair and reassembly was performed by persons appropriately qualified and I personally periodically inspected the progress of this overhaul during this process. I find no contra indication that if this unit is properly maintained and used it will not continue to provide safe use along the lines intended by the original manufacturers.