



27 July 2018

**Authorised Examiners (Lifting Equipment)
Mobile Crane Owners
All Interested Parties**

DATA LOGGER REQUIREMENTS FOR MOBILE CRANES

Background

The Ministry of Manpower (MOM) announced in April 2015 that all mobile cranes registered under the following classification codes shall be installed with data loggers in compliance with MOM’s requirements by 1 August 2018 in order to be used at workplaces:

- 601 – Mobile Crane – Truck Mounted Variable Boom Length Type
- 602 – Mobile Crane – Truck Mounted Fixed Boom Length Type
- 611 – Mobile Crane – Crawler Mounted Variable Boom Length Type
- 612 – Mobile Crane – Crawler Mounted Fixed Boom Length Type
- 621 – Mobile Crane – Wheel Mounted (without prime mover) Variable Boom Length Type
- 622 – Mobile Crane – Wheel Mounted (without prime mover) Fixed Boom Length Type
- 651 – Mobile Tower Crane (Horizontal Boom)
- 652 – Mobile Tower Crane (Luffing Boom)

Statutory Examination Requirements for Mobile Cranes with effect from 1 August 2018

2 Effective from 1 August 2018, Authorised Examiners (AEs) conducting statutory examination of mobile cranes are also required to carry out test and examination of the data logger system. Among others, AEs shall check that the data logger system is in good working condition and in compliance with MOM’s requirements for data loggers for mobile cranes as stipulated in **Annex A**.

3 A copy of the data logger report shall be generated upon completion of the test and examination. The report shall clearly show the results of all functional and/or overload tests

Date of Issue	Classification	Circular No.
27 July 2018	Lifting Equipment	OSHD/SPECS/ESB/LE/03-2018



carried out by the AE as part of the examination. The data logger report and a completed inspection report such as a checklist, both duly endorsed by the AE, shall be included as part of the Form B – Certificate of Test/Thorough Visual Examination of Lifting Equipment (LE Certificate). This set of documents shall be kept available in the mobile crane by the crane owner for inspection.

4 AEs shall not issue an LE Certificate for any mobile crane if the requirements stipulated in paragraph 2 above are not met.

Ensuring Proper Maintenance of Mobile Cranes

5 Crane owners are to ensure that the data logger system in mobile cranes are properly maintained as per the requirements stipulated in **Annex A**. Crane owners are strongly encouraged to generate and download a copy of the data logger reports at periodic intervals to ensure that the data logger system is in good working condition and that the crane was operated in a safe and sound manner. The reports could thereafter be kept as part of documentation.

6 Any mobile crane not installed with a data logger in compliance with MOM’s requirements by 31 July 2018 shall not be used at workplaces from 1 August 2018. Non-compliance to the above requirement will result in enforcement actions taken on owners of such mobile cranes.

Further Information

7 You may contact my colleague, Mr. Elmer Khong at Elmer_KHONG@mom.gov.sg (e-mail) should you require any further clarification.

Yours faithfully



ER. TAN KEE CHONG
for COMMISSIONER FOR WORKPLACE SAFETY AND HEALTH
OCCUPATIONAL SAFETY AND HEALTH DIVISION

Occupational Safety and Health Division
1500 Bendemeer Road #03-02
Ministry of Manpower Services Centre
Singapore 339964
Tel : (65) 6438 5122
Facsimile : (65) 6535 6726
Website : <http://www.mom.gov.sg/oshd/>
Email : mom_oshd@mom.gov.sg

Date of Issue	Classification	Circular No.
27 July 2018	Lifting Equipment	OSHD/SPECS/ESB/LE/03-2018



REQUIREMENTS FOR DATA LOGGERS FOR MOBILE CRANES

1 The data logger must be able to perform the following functions:

S/N	Specific Features of the Data Loggers
1	Detect and record any override key activation for the crane's safety devices including derricking limiter, over-hoisting limiter and rated capacity limiter
2	Detect and record overloading occurrences (i.e. when load reaches and exceeds 100% of the crane's rated capacity)
3	Detect and record status of limit switches, including derricking limiter and over-hoisting limiter
4	Be equipped with data security and anti-tampering feature
5	Download recorded data
6	Generate reports

2 The data logger must be able to record the following operational parameters:

S/N	Recorded Parameters by the Data Loggers
1	Date and time
2	Crane configuration
3	Permitted load, actual load, percentage of usage of rated capacity (for main hook and auxiliary hook)
4	Radius of load
5	Slew angle (applicable to cranes with safe working load that varies according to the slewing angle)
6	Main boom angle, fly jib angle (if applicable)
7	Boom length, fly jib length (if applicable)
8	Sequence of extension (for telescopic cranes)
9	Status of limit switches
10	Status of override key activation (for over-derricking limiter, over-hoisting limiter and rated capacity limiter)

3 In addition, the data logger:

- a) Must be automatically switched on and operational whenever the mobile crane is in operation;
- b) Must be synchronised with the mobile crane as an integrated system without safety implication, undue limitations and restrictions to the crane operation; and
- c) Must have data that is downloadable by interested parties, such as crane owners or occupiers, on a regular basis. The report generated shall be in a readable format that is easily comprehensible.

Date of Issue	Classification	Circular No.
27 July 2018	Lifting Equipment	OSHD/SPECS/ESB/LE/03-2018