Lorry Cranes: Issues, Challenges and Best Practices
With an illustrious history dating more than 40 years ago, Bok Seng Logistics has grown from strength to strength from its earliest business in heavy equipment and transportation.

Today, Bok Seng Logistics is united in driving towards one focused vision of Moving the World - delivering a wide-spanning range of logistics services for both sea and land.

From intermodal transportation, warehousing to handling of large-scale complex logistics projects, Bok Seng Logistics provides a comprehensive offering unlike any other in the region.
Recent Events

9 dangerous crane-related accidents since January: WSH Council

SINGAPORE: Between December last year and this week, nine crane-related accidents occurred at construction sites, according to the Workplace Safety and Health (WSH) Council.

These included one that killed a worker and injured 10 others while another killed a woman when a crane toppled over in Hougang at around 10am yesterday, dropping its load of steel plates on the road.

The Ministry of Manpower (MOM) said it was informed of the accident at the Ken-Pal (S) worksite on Hougang Street 21. MOM said preliminary findings indicate that the lorry crane had toppled during lifting work. The crane operator was slightly injured in the incident.

MOM has told the company to stop all lifting work involving the lorry crane while investigations are ongoing.

Officers from MOM’s Occupational Safety and Health Division are investigating.

Source: StraitsTimes
Channelnews Asia
WSH Council
Recent Events

Lorry crashes into walkway shelter at Bukit Batok collapse on car

SINGAPORE - A walkway shelter at Bukit Batok collapsed on Friday, February 26, drawing curious onlookers.

The Straits Times reported that a crane had crashed into the shelter at Block 118 at Bukit Batok West.

The lorry driver, a man in his 40s, had been arrested in response to the police investigation. There were no injuries reported.

Covered walkway damaged by lorry crane in Bukit Batok

SINGAPORE - A covered walkway in Bukit Batok was damaged after a crane lorry ran into it on Wednesday (July 20).

The Singapore Civil Defence Force (SCDF) said that it was alerted to the incident between Block 504 and Block 506, Bukit Batok Street 52, at 2.57pm.

No SCDF assistance was required as there were no injuries, it added.

Police said that the 46-year-old driver was arrested in relation to the case. Police investigations are ongoing, it added.

There was a similar incident last month, when a lorry with an attached crane crashed into a covered walkway at Bukit Batok Avenue 6 on June 17.

The walkway toppled and crushed a car.

Source: StraitsTimes
ChannelNews Asia
Interview with Our Lorry Crane Operator
Issues and Challenges from 4M and 1E

**Lorry Crane Challenges**

- Obstruction to lifting like shelter
- Outrigger not fully deploy
- Inappropriate outrigger pad used
- Method
- Lack of stability control system
- Lorry crane

**Material**

- Due to expired
- Due to damage
- Undeclared weight by customer
- Overloading of cargoes
- Weather/site condition
- Ground condition
- Not familiar with equipment
- Assumptions

**Man**

- Overcomplacent
- Bad habit
- Lack of teamwork
- Bypass procedure or perform shortcut
- Habit of controlling

**Equipment Malfunction**

- Equipment malfunction
- Incompetence in inspection
- Lack of periodic inspection
- Customer rushing them to leave their premise
- Forget to perform important task
- Accident

**Environment**

- Accident
Issues and Challenges (Man)

Lifting operation can be affected by:
1) Over Complacent that lead to bypass procedure
2) Bad habit that lead to perform shortcut
3) Unfamiliar with the lorry that they are using
4) Lack of Teamwork which affect proper communication

Best Practices

Teamwork in the Lifting Team plays an important role during the lifting operation as it is able to support each other by reminding each other on:
1) Over complacent issue
2) Bad habit issue

Toolbox Meeting is deem necessary before work commence as it provides a clear and concise how lifting is going to be performed for different types of cargoes and site situation
Issues and Challenges (Man)

Lifting operation can be affected by:
1) Over Complacent that lead to bypass procedure
2) Bad habit that lead to perform shortcut
3) Unfamiliar with the lorry that they are using
4) Lack of Teamwork which affect proper communication

Best Practices

**Familiarisation of the equipment** is important to certify full competency for the drivers besides having Lorry Crane License. All new drivers who applied as Bok Seng drivers will need to fill in the model of lorry cranes used from previous employment so that arrangement for familiarisation training can be arranged when deem necessary.
Issues and Challenges (Environment)

Lifting operation can be affected by:
1) Weather / Site Conditions that affect the ground condition
2) Customer rushing drivers to leave premise that may lead to forgetting to performing

Best Practices

Site condition is an important factor that shall never be neglected. Before the actual lifting operation, a site survey shall be conducted to ensure ground and site situation so that appropriate action can be deployed.

Drainage underneath concrete flooring which is not suitable to have direct loading, therefore steel plate had been laid before the outrigger had been deployed to ensure even distribution of load to ensure safe lifting.
**Issues and Challenges (Environment)**

Lifting operation can be affected by:

1) Weather / Site Conditions that affect the ground condition
2) Customer rushing drivers to leave premises that may lead to forgetting to perform critical procedure.

**Best Practices**

Customer rushing at site can be common but crane operators must have “Habits of Mind” so as not to forget the critical procedure like keeping the hydraulic crane before moving off from site. **Teamwork** is also part of a solution to remind each other not to miss any of the procedure.
Issues and Challenges (Material)

Lifting operation can be affected by:
1) Lifting gears not checked
2) Under declaration of cargo’s weight by customer

Best Practices

Lifting gears must be checked to ensure they are within expiry as well as to check the conditions of the lifting gears before usage. Never be over confident over the equipment that are equipped on the lorry crane.
Issues and Challenges (Material)

Lifting operation can be affected by:
1) Lifting gears not checked
2) Under declaration of cargo’s weight by customer

Best Practices

Under declaration of cargo’s weight can be dangerous during lifting operation. Therefore, crane operators have the habit of adding 1 ton to 2 tons above the existing cargo’s weight that customer had declared to ensure more safety factor. Always monitor the controller to ensure the light indicator at green which is less than 80% utilisation.
Issues and Challenges (Material)

Lifting operation can be affected by:
1) Lifting gears not checked
2) Under declaration of cargo’s weight by customer

Best Practices (In-progress)

Management is looking at installing Weight Measurement Sensor onto the lorry crane so that they have more assurance when performing the lifting operation.
Issues and Challenges (Machine)

Lifting operation can be affected by :
1) Lack of periodic inspection
2) Incompetence in inspection where critical items are not checked
3) Lack of stability sensor

Best Practices

Periodic maintenance of all equipment done by trained personnel is most fundamental to minimise the malfunction of equipment. It will ensure safe and smooth lifting operation.
Issues and Challenges (Machine)

Lifting operation can be affected by:
1) Lack of periodic inspection
2) Incompetence in inspection where critical items are not checked
3) Lack of stability control System

Best Practices (Suggestion for improvement)

This system based on real time computation of crane’s actual stability taking the current positions of the stabilizers into account. It covers the entire siew range and comes close to actual crane’s stability.
Issues and Challenges (Method)

Lifting operation can be affected by:
1) Obstruction for lifting like shelter
2) Outrigger not fully deployed
3) Inappropriate outrigger pad sitting

Best Practices

The lorry crane shall be equipped with various length of the lifting gears and if the shortest lifting gear is not possible, specialised mover team will be activated to construct railing for moving the cargoes. Know your equipment well and do not insist that everything can be done by lorry crane.
Issues and Challenges (Method)

Lifting operation can be affected by:
1) Obstruction for lifting like shelter
2) Outrigger not fully deployed
3) Inappropriate outrigger pad sitting

Best Practices

The outrigger shall be fully outrigged as far as lifting operation is been carried out and proper outrigger pad shall be used as all lorry crane are provided upon installed with hydraulic crane.

Outrigger pad comes with hydraulic crane installation
SAFETY BEGINS WITH ME
Thank You
for your kind attention.

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