

# Safety and Inspection of Building Construction Machinery in China

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# 1. Main Construction Machinery

Tower Crane

Crawler Crane

Truck Crane

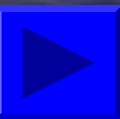
Rack and Pinion Hoist

Rope suspended Hoist

Derrick Material Hoist

Temporarily installed suspended access equipment

Pile Driver etc.



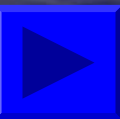
## 2. Safety status of Construction Machinery

According to the statistics of Ministry of Construction of the People's Republic of China:

In 2006, from Jan. 1<sup>st</sup> to June 30<sup>th</sup>, **380** accidents happened and **456** peoples died in the construction and municipal building sites.

Among these accidents, **57** people died in the tower crane accidents, account for 12.5% of all(456); **36** people died in the construction hoist accidents, account for 7.89%; **29** people died in the other construction equipment accidents, account for 6.36%.

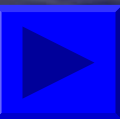
We can see: **more than 26% of death** is due to construction equipment!



## 2. Safety status of Construction Machinery (cont.)

Reasons of Accidents:

- A. load moment limiter doesn't work,  
overloading in using machinery; ■
- B. unfit installation and disassembly; ■
- C. Bad using and maintenance; ■
- D. Faults in designing and manufacturing; ■



## 2. Safety status of Construction Machinery (cont.)

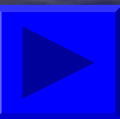
Status now:

A. bad performances of machinery, some of them not reaching the requirements of the safety standards;

B. incapable of people doing the installation work, no guarantee of quality of the equipment installation;

C. having improper management, misoperation occurring often;

D. having no specific management of construction equipment, no standards of performance evaluating and discarding for old equipments.



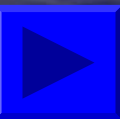
### 3. Inspection of Construction Machinery

As the working environment is tough complex and changeful, unexpected problems of machinery appears at times, so the inspection of construction machinery is in great demand.

The aim: to promote the safety consciousness of the workers and to reduce the number of accidents.

The inspection includes:

- A. looking over relevant documents and files (installation contract / installation license / notes of self-inspection / notes of maintenance / IC card etc.)
- B. checking the safety of working environment
- C. inspecting the safety performance of the equipments



### 3. Inspection of Construction Machinery (cont.)

#### Relevant Laws/ Codes:

Code for Safety Supervision of Specified Equipments

(《特种设备安全监察条例》)

Code for Quality Supervision and Safety Inspection of Specified equipment

(《特种设备质量监督与安全检查规定》)

Code for Reporting and Investigating of Accidents in production

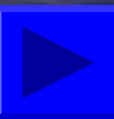
(《生产安全事故报告和调查处理条例》)

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#### Relevant Standards/Specification:

- JGJ59-99 Standard of Construction Safety Inspection
- GB/T5972-2006 Wire ropes for cranes-Code of practice for examination and discard
- GB5144-2006 Safety code for tower cranes
- GB/T9462-1999 Specification for tower cranes
- GB10054-2005 builder's hoist
- GB10055-1996 Safety code for builder's hoist
- GB8716-1998 Truck crane and wheel crane-Safety code
- GB19155-2003 Temporarily installed suspended access equipment

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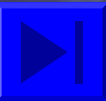


## 4. Introduction of Construction Machinery Inspection Department in SRIBS.

Established in 2000, approved by the Shanghai municipal government, mainly engaged in the inspection of large-scale construction machinery.

### Primary Services:

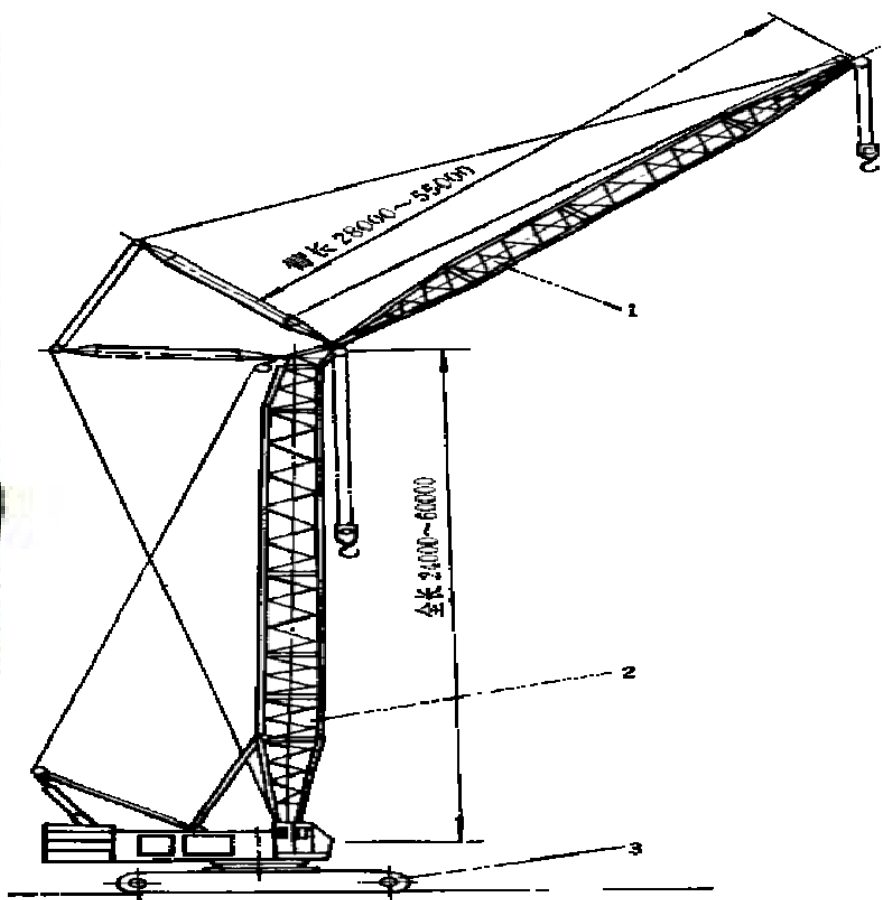
- a. inspection of major building construction machinery;
- b. examination of safety device (anti-falling safety device in construction hoists, safety lock in temporarily installed suspended access equipment)
- c. technical consultant and safety management training
- d. investigating and technical analysis for accidents caused by hoisting machinery











1. 副臂架 2. 主臂架(塔身) 3. 履带  
日立公司 KH1000 型塔式履带起重机















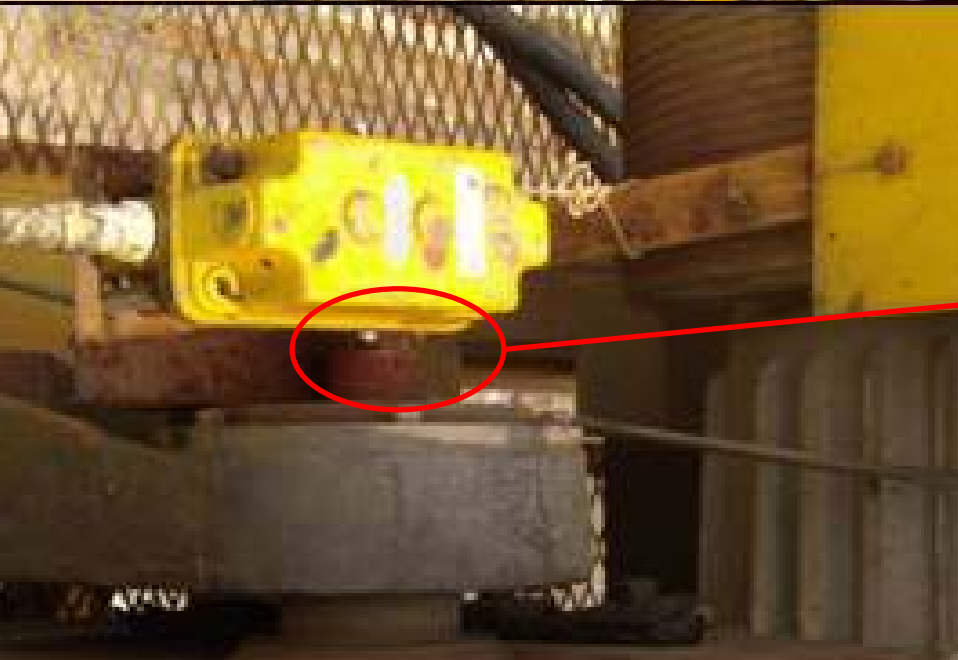
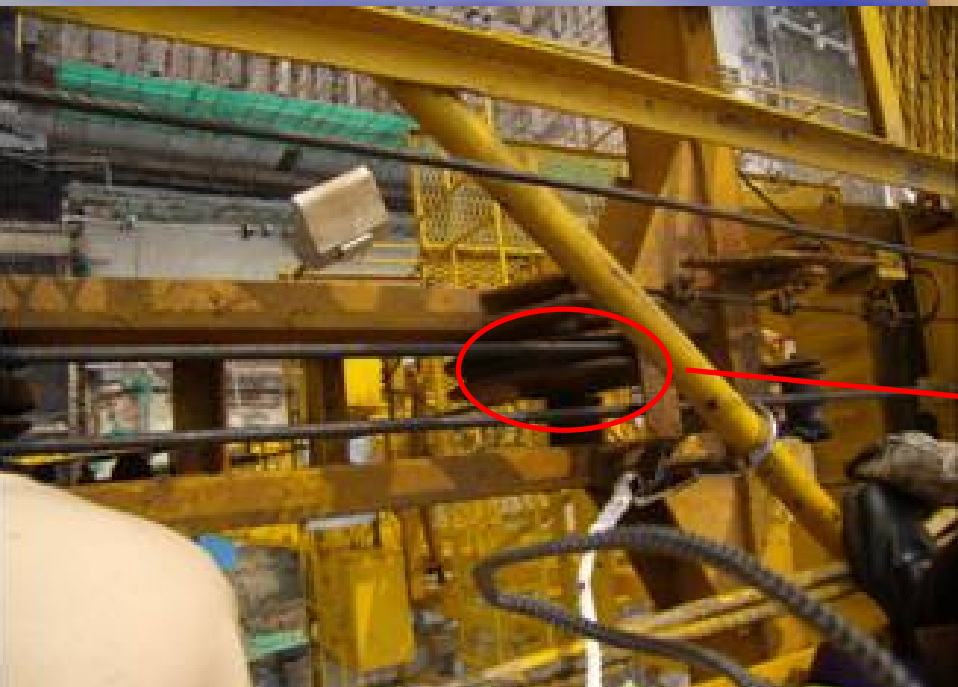
























# Code for Safety Supervision of Specified Equipments (《特种设备安全监察条例》)

seven specified equipments :

Boiler

Pressure Vessel

Pressure Pipeline

Elevator (indoor)

Hoisting Machinery (Crane, Hoist etc.)

Passenger Ropeway

Large-scale Recreation Facility

the whole process:

Producing (designing manufacturing installing  
altering repairing)

Using

Inspection

Supervision

Penal Provision

A sunset over a vast blue ocean. The sun is on the left, creating a bright glow and reflecting on the water. The sky is a deep blue with wispy clouds. The text "the End" is centered in yellow.

the End

Thank you!