



CRANES

1. When would a sheave become unsafe for use?
 - A. Excessive wear in a groove
 - B. Cracks or damage to flange
 - C. Worn sheave pins
 - D. Damage to cheek plate

2. What effect can blocking have on your crane and equipment?
 - A. Snap hoist rope
 - B. Damage main boom sheave
 - C. Cause load to drop

3. When the maximum number of turns is wound round the drum, how far must the flange of the drum extend above the outer layer of the rope?
 - A. At least 2 rope diameters
 - B. At least 3 rope diameters
 - C. At least 4 rope diameters

4. When the hook block is at its lowest point, what is the minimum amount of full turns of wire rope that must remain on the hoist drum?
 - A. 2
 - B. 3
 - C. 1

5. How can the lifting capacity of a hook block be identified?
 - A. It should be stamped or marked on the hook block
 - B. Will be marked on load charts
 - C. Block and crane is a matched pair

6. What safety device should be fitted (where applicable) to a hook block to prevent slings from dislodging?
 - A. A safety catch on the mouth of the hook
 - B. Mouse the hook
 - C. Does not require any safety catch

7. When lifting a heavy load what precautions would you take to work within a given radius?
 - A. Reduce the operating angle to allow for boom deflection
 - B. Extend operating radius
 - C. Leave boom length the same



8. What does this hand signal indicate?



LOWER DOWN

9. The crane you are operating has a single fall capacity of 7 tonnes; the load to be lifted is 10 tonnes. How can this lift be achieved using this crane?

- A. Double reeve the hook block
- B. Break load into smaller parts
- C. Both A & B**

10. Your crane load chart is virtually unreadable from wear and tear, what action would need to be taken?

- A. Carry on until a convenient break and report it
- B. Stop before work commences and get replacement chart**
- C. Need not bother, you are only lifting light loads

11. What items are required to determine the cranes lifting capacity at radius?

- A. The hook block**
- B. Lifting attachments**
- C. The weight of load**

12. When is it important to include the falls of hoist rope as part of a rated load?

- A. Always include weight of rope
- B. Include as per manufactures recommendations**
- C. No need to include weight of rope on any crane

13. Cranes have more stability when lifting over the side of the vehicle?

- A. True
- B. False**

14. If the precise reading is not available on a load chart, what should you do?

- A. Increase capacity of load
- B. Remains the same
- C. Decrease capacity of load**



15. Whilst operating your crane it becomes windy. How would you check guidance for shut down?
- A. Shut down to be on safe side
 - B. Continue lifting small loads
 - C. Check your operators manual for guidance**
16. What is the recommended shut down speed of your crane?
- A. 40 – 2 mins MPH / KPH / **KNOTS**
 - B. 35 - 6 mins MPH / KPH / **KNOTS**
 - C. 30 - 12mins MPH / KPH / **KNOTS**

Wind speeds for Tower Crane / Kato Truck mounted crane 22 Knots

17. Operators can work safely to manufactures wind speeds at all times?
- A. True (only when lifting heavy loads)
 - B. False (operator must shut down job if he/she cannot safely complete task)**
18. The load chart has a heavy black line across the chart, how would this affect the cranes structure & stability above and below the line?
- A. Structural strength (above) and stability (below) lines**
 - B. Stability (above) structural (below) line
 - C. Can lift loads above or below line safely
19. What does this hand signal indicate?

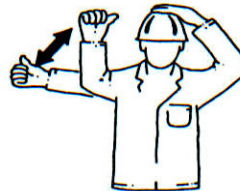


INCH LOAD OR TAKE THE STRAIN

20. Before commencing work on a site, why is it important to consult with the site manager?
- A. So you can get time sheet signed
 - B. To be made aware of any rules regulations and procedures**
 - C. No need to it will only slow the job up
21. What would be provided for a crane working at night or in a dark area?
- A. Radio to keep operator awake
 - B. Sufficient lighting**
 - C. Two or more banksman



22. What communication methods does the operator have other than the two way radio?
- A. Hand signals
 - B. Whistles
 - C. Telephones
 - D. Light signals
23. Who would be involved if a load requires assessing?
- A. The crane operator
 - B. Crane Coordinator
 - C. Banksman slinger
24. What factors should be considered when using a tag line?
- A. Keep rope as long as possible
 - B. Weather conditions
 - C. Always double wrap as rope will not slip off
25. What precautions must be observed when working near power lines?
- A. Stay as far back as possible
 - B. Only use a short jib length
 - C. Follow recommended minimum distances as per BS7121
26. What does this hand signal indicate?



JIB HEAD UP

27. What is the minimum working distance from?
- (1)
- A. Steel pylons: 15 metres + full length of jib + half distance of load.
 - B. Wooden poles: 9 metres + full length of jib + half distance of load.
- (2)

If you can get clearance from local electricity company you can move crane into a minimum distance of? (GS6)

6 Metres + full length of jib + half distance of load.



28. What is the most important action to be taken if your crane comes into contact with live power cables?
- A. Try to move crane away from conductor
 - B. Warn all other personnel to stay away
 - C. Remain in cab until power is disconnected (All would be important)**
 - D. Check machine prior to future use
29. The total number of vertical parts of rope from which the hook block is suspended is called?
- A. Rope ties
 - B. Rope stays
 - C. Falls of rope**
30. You are operating a crane, which is to lift an object out of the water what special precautions should be taken?
- A. Water conditions (swell, current and tide)**
 - B. Weather conditions**
 - C. Water tension on load (can sometimes double loads weight)**
 - D. Do not use chain slings as they will rust

31. What does this hand signal indicate?



EXTEND JIB HEAD

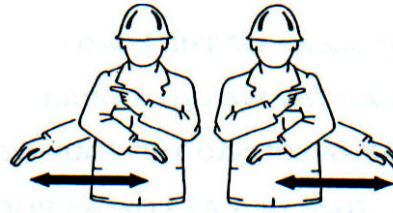
32. Why is it important to check the over hoist limit or cut off switch?
- A. To make sure it is operating correctly to avoid double blocking**
 - B. To operate a man rider basket safely
 - C. To avoid going out of operating radius
33. What would you do to make sure that the crane is set up properly and level?
- A. Check By eyesight
 - B. Check using the bubble level**
 - C. Extend outriggers fully and crane will be level
34. What is the minimum distance away from an open excavation if excavation is 10 meters deep?
- A. 15 meters + 6"
 - B. 10 meters + 1 meter**
 - C. 6 meters + 4"



35. If the stabiliser / outrigger sinks into the ground what should the crane operator do?
- A. Slew away quickly to another crane zone
 - B. Slew crane smoothly away into another crane zone**
 - C. Drop load quickly
36. What would be the most secure way to set up a crane, on a road with an adverse camber?
- A. Lower outriggers more to compensate for camber
 - B. Fill area of camber under packing with sand**
 - C. Don't bother no need to care about camber
37. Where would you find the operating zone of the crane?
- A. From load duty charts**
 - B. From site agent
 - C. From banksman
38. In the event of any visual or audible devices going off. (Lights, alarms, cutouts) What action should be taken?
- A. Ignore it and carry on because site agent tells you to
 - B. Call out a fitter
 - C. Identify the problem and take appropriate corrective action**
39. What does this hand signal indicate?
-
- JIB HEAD DOWN**
40. When would you know if your crane requires multiple load lines?
- A. Refer to cranes load charts**
 - B. Always work with maximum falls of rope
 - C. Always work to minimum falls
41. What is the Importance of setting your crane up level?
- A. To stop you creeping round in slew motion
 - B. To ensure stability
 - C. To ensure stability and crane can work to rated capacity**



42. What does this hand signal indicate?



SLEW LEFT OR RIGHT

43. When would you add extra counterweights to your crane

- A. When lifting heavy concentrated loads
- B. As per crane manufactures recommendations**
- C. When lifting heavy loads at maximum radius

44. What is the Importance of having the boom head positioned correctly over the load?

- A. To make life easier for banksman
- B. Reduce risk of overloading, loss of crane stability and load swing**
- C. To double check operating radius

45. Your crane is required to remove a large object of unknown weight which is partially buried would you conduct the lift?

- A. No not until mass of load has been determined**
- B. Yes you are on full falls of rope and close to object
- C. Only if load has been excavated and unburied

46. What is the minimum operating radius of most cranes?

- A. Check load charts**
- B. 4 meters
- C. 0 meters

47. You are lowering (formwork) shutters from the top of a building, when there's a high wind.

Why would this become a hazard?

- A. None if you lower quickly
- B. Load could spin + destabilise the crane**
- C. Load could spin but crane will remain stable

48. What does this hand signal indicate?



RETRACT JIB HEAD



49. When someone signals you to stop other than the person directing you. What should you do?
- A. Stop and await instructions**
 - B. Ignore other person he may not be qualified
 - C. Land load in safe place
50. After following shutdown would it be safe to leave a load suspended from a hook?
- A. Only light loads
 - B. No hook must be left free**
 - C. Yes to stop small tools being stolen overnight
51. When Involved in a dual crane lift you should?
- A. Carry out the lift both cranes are not working to capacity
 - B. Would not carry out lift
 - C. Only proceed under direct supervision of crane co-ordinator**
52. When a sheave groove is larger than the diameter of rope. What might occur?
- A. Will cause the rope to flatten**
 - B. Will cause pinching of the rope
 - C. It will still operate safely
53. What would happen if the fleet angle of the hoist rope were Incorrect?
- A. Would cause Spooling or uneven coiling of the hoist rope on the drum**
 - B. The hoist rope may be pulled off the sheave and jam**
 - C. Rope would need to be serviced on a regular basis
54. What problems would occur if the guide wheel seized?
- A. Rope would be slower to wind on drum
 - B. Rope would still wind on drum properly
 - C. Spooling or uneven coiling of the hoist rope on the drum**
55. What does this hand signal indicate?



STOP



56. What is a common way to secure and terminate a rope end?
- A. Clamp
 - B. Wedge socket**
 - C. Slip knot
57. What advantage does a swivel wedge socket provide?
- A. None only for cost value
 - B. It will take twists out of your hoist rope under normal work conditions**
 - C. Provides a more secure anchor point
58. The tail projection from the dead end of a rope used with a wedge socket is?
- A. 15 x diameter to a minimum of 200mm**
 - B. 15 x diameter to a minimum of 300mm
 - C. 15 x diameter to a minimum of 150mm
59. How should the live line of rope pass through a wedge socket?
- A. Live line to long part of socket / dead end of rope to short part of socket**
 - B. Dead end to long part of socket / live line to short end
 - C. Does not make any difference rope will be secure
60. How often should operators check the hoist rope is running freely through Sheaves and hook block?
- A. Daily**
 - B. Every two hours
 - C. Weekly
61. The lower limit setting for your cranes hoist rope should be tested every day to ensure what?
- A. You do not lower into mine shafts
 - B. To keep load bearing weight on hoist drum at all times**
 - C. You do not strike the ground and damage your block
62. Depending on crane duty charts outriggers should be fully extended?
- A. True**
 - B. False
63. Are all cranes capable of free on wheels duties?
- A. Depends on duty charts**
 - B. Yes providing outriggers are kept close to the ground
 - C. Yes if in creep speed only



64. What does this hand signal indicate?



EMERGENCY STOP

65. If your crane is allowed free on wheels duties or rail mounted, where must the load be kept?

- A. To the zone at the rear / side of the crane only
- B. To the zone at the side / front of the crane only
- C. Check crane duty charts**

66. When working free on wheels what is the maximum angle of degrees offset to the line of travel you are allowed over front or rear of your crane?

- A. 2 degrees**
- B. 3 degrees
- C. 5 degrees

67. Cranes must only be used on firm level ground?

- A. Only for heavy loads
- B. True for all lifts**
- C. Check crane duty charts

68. How would you determine how much packing is required for under your outriggers?

- A. Consult with manufactures**
- B. Consult crane duty charts
- C. Any size of packing is better than none

69. What does this hand signal indicate?



OPERATIONS CEASE



70. The formula to determine area of packing for out riggers if ground bearing pressure is known

Crane +Load bearing pressure 20 t ÷ by ground bearing pressure 40 t = 0.5m²
area of packing required = $\sqrt{0.5} =$

$$20 \div 40 = 0.5 \sqrt{} = .707$$

- A. .805
B. .707
C. .605

Packing must be a minimum of 750 mm x 750 mm

71. Radius is measured from the centre of rotation to?

- A. Centre of load
B. Furthest edge of load
C. Nearest edge of load

72. What does this hand signal indicate?



HOIST UP

73. If your rated capacity Indicator does not work you should?

- A. Stop all work until problem is fixed
B. Only lift light loads
C. Carry on using crane duty charts

74. If your hoist rope is kinked, what might you lift?

- A. Light loads only
B. Heavy loads as it will take kink out
C. No loads

75. When moving a load it should be kept?

- A. As low as possible
B. As high as possible
C. At a height consistent with load and work conditions



76. Calculate area of packing required for you crane if the ground bearing pressure is 2 tons per square foot, weight of crane is 50 tons and weight of load is 22 tons?

$$50 + 22 = 72 \div 2 = 36\sqrt{} = 6$$

_____ **6 ft x 6ft** _____

77. Calculate area of packing required for your crane if the ground bearing pressure is 13 T/m², weight of crane is 40 tons and weight of load is 12 tons?

_____ **2m x 2m** _____

$$40 + 12 = 52 \div 13 = 4\sqrt{} = 2$$

78. Where should outreach be measured from?

- A. Nearest edge of crane structure to centreline of hook**
- B. Centre of rotation to nearest edge of load
- C. Nearest edge of crane structure to nearest edge of load

79. If you are placing a load at height, can you lift the same weight as per duty charts for ground level?

- A. True
- B. False**

80. When would it be important for crane operators to stop their job?

- A. Banksman becomes unsighted**
- B. Radio com. has gone silent in a blind lift**
- C. None of above

81. If the operator increases the number of falls of rope what would happen to the hook block?

- A. Increased load capacity**
- B. Increased hoist speed
- C. Reduced hoist speed**
- D. Reduced load capacity

82. Automatic safe load indicators (ASLI) will only register?

- A. On maximum 15% gradient
- B. On firm level ground**
- C. On maximum 20% gradient

83. What should be fitted to the hoist system before the crane can lift personnel in a man-riding basket?

- A. Power up power down
- B. Hoist limiter
- C. Automatic hoist brake / Dead man switch**



84. If your crane is allowed to operate using a man-riding basket how often must your crane be thoroughly Inspected?
- A. 6 months
 - B. 12 months
 - C. 4 years
85. Cranes with a rated capacity over 500 tonne need not be load tested every 4 years. In Accordance to BS7121 this work should be carried out every?
- A. Year
 - B. Six months
 - C. Two years
86. Your crane is set up for work within a 6 km distance from an airport and the jib is working above 10 metres or above surrounding trees or structures what must your company do?
- A. Look out for low flying planes
 - B. Consult with airfield manager
 - C. Place a flag on boom head
87. Your crane is to be set up on a highway. What must you ensure?
- A. Police / local highways dept have been notified
 - B. Have appropriate documentation
 - C. Divert all pedestrian / vehicle traffic
88. If you slew your crane too quickly when the load is near maximum radius what might happen?
- A. Load would swing out and increase radius resulting in crane overload
 - B. Load would swing in and increase crane capacity
 - C. Load would stay at same radius
89. When operating a crane in high-speed drive, what should you try to prevent?
- A. Stopping beyond drop of point
 - B. Load swings, jib bounce and shock loading
 - C. Load swings
90. When adding an additional jib section this will alter the working radius and capacity?
- A. True
 - B. False



91. Whilst you are operating you notice a thunderstorm approaching. What should you do?
- A. Carry on working
 - B. Shutdown crane and move away from the vicinity of crane**
 - C. Shutdown crane
92. If your crane has been struck by lightning whilst it has been shutdown. What safety measures are required before work commences?
- A. Carry out a thorough examination of crane and equipment**
 - B. Replace the batteries
 - C. Check safe working load Indicator is still operational
93. When tandem lifting your crane coordinator cannot evaluate the loads to be imposed on each crane he should de-rate each crane by what?
- A. 10%
 - B. 20%**
 - C. 15%
94. The maximum load that can be safely lifted by the crane under specified conditions is called?
- A. Capacity load
 - B. Minimum safe load
 - C. Safe working load**
95. Instruments for measuring wind speeds are called?
- A. Wind meter
 - B. Anemometer**
 - C. Metro meter
96. Why is an automatic safe load Indicator fitted to a crane?
- A. To provide a positive safe load indicator to the operator
 - B. An aid to the operator**
 - C. A fail safe system
97. When working within the vicinity of a crane what warning would be given to operators and personnel if the crane were overloaded?
- A. Amber light will come on with a bell ringing
 - B. Red light will come on with a bell ringing**
 - C. Red light will come on



98. What action must be taken when the safe load Indicator bell is ringing and the red light is in operation?
- A. Derrick in
 - B. Land the load
 - C. Both A and B**
99. What is the safety factor of your crane's hoist rope?
- A. 8 – 1
 - B. Between 4.5 – 6 to one**
 - C. 2 – 1
100. According to British Standards cranes should be tested every 4 years, how should this be carried out?
- A. Overload test by 50%
 - B. Crane load tested to ensure rated capacity indicator is accurate**
 - C. Overload test by 25%
101. At what percentage will an overload limit switch or rated capacity Indicator stop the crane from working?
- A. 110% (Red light + external warning horn)
 - B. 112.5% (Will cut all critical motions)**
 - C. 95 – 97% (Amber light + internal warning horn)
102. For what purpose must the operator carry all test certificates relating to his/her crane and lifting tackle?
- A. To look professional
 - B. To prove crane and tackle is currently in test date**
 - C. To prove crane and tackle is in good working order
103. Outriggers and crane suspension units have locking pins when must they be engaged?
- A. When the crane is set up to complete a lift**
 - B. When travelling over rough ground
 - C. When free on wheel's duty
104. You have to position an air conditioning unit weighing 1.5 tonne on the apex of a roof. The measurement along the side of the building to roof apex is 20 metres; Distance along the front of the building to centre of rotation is 10 metres calculate your radius?
- 20 x 20 = 400**

10 x 10 = 100

+ = 500√ = 22.3
- A. 22 metres
 - B. 22.3 metres**
 - C. 23 meter



105. Your jib length is 28 metres (to ground) and radius is 17metres too same point on ground what is the height of your lift?

$$X^2 = 28^2 - 17^2$$

$$X^2 = 784 - 289$$

$$X^2 = 495$$

$$28 \times 28 = 784$$

$$17 \times 17 = 289$$

$$- 495\sqrt{} = 22.2$$

$$\sqrt{495} =$$

- A. 21 metres
B. 22.2 metres
C. 24 metres
106. How do you find out the ground compaction rate for the site you are operating on?
- A. Ask the banksman
B. Ask the crane coordinator / site agent
C. Check crane duty chart
107. Crane counterweights require clearance from structures. What is the minimum requirement?
- A. 600 mm
B. 200 mm
C. 800 mm
108. What is the name of the secondary lifting rope, which usually passes over the fly-jib?
- A. Secondary rope
B. Auxiliary rope
C. Main hoist rope
109. What is the operational condition of the crane deemed to be in when subjected to an overturning moment, which cannot be increased by even a small amount?
- A. Structural failure
B. Maximum rated load
C. Condition of tipping
110. What is the name for the bearings on which the crane rotates?
- A. The slip ring
B. The slew ring
C. The centre line



111. In the work vicinity of a crane what is the collective name for overhead and underground services?
- A. Site hazards
 - B. Operators hazards
 - C. Proximity hazards**
112. To check the hoist brake is functioning properly you should?
- A. Tap it with a hammer
 - B. Raise the load slightly and then apply the brake**
 - C. Raise the load 10 feet and then apply the brake
113. When working at minimum radius with maximum load, what extra precaution must be taken when the load is landed?
- A. The jib does not flip backwards**
 - B. The load does not sink
 - C. The load does not tip over
114. Within the capacity of the crane, what do the number of falls of rope determine?
- A. Safe working load
 - B. The load that can be lifted**
 - C. Radius of load
115. What should you always consult before making a lift?
- A. Rated capacity indicator
 - B. Load chart or duty chart**
 - C. The radius indicator
116. When working on blocked duties what precautions should be taken relating to the outriggers?
- A. That they are level
 - B. That they are extended correctly, fully supported and locked**
 - C. That they are fully extended
117. Why would the maintenance service logbook be used?
- A. To keep a record of all maintenance and repairs to crane**
 - B. To keep a record of downtime of machine
 - C. To keep a record for the Health & Safety Executive only



118. Whilst operating your crane it became defective what would you do?
- A. Fill out a defect report
 - B. Secure crane and report fault to supervisor**
 - C. Carry on until a convenient break and report it
119. How often should your crane's maintenance be carried out?
- A. Per manufacturers maintenance schedule**
 - B. Only when you find a fault
 - C. Every six months
120. What should you use to lubricate and prevent rusting of your crane's hoist rope?
- A. A mixture of diesel and grease
 - B. A proper formulated rope dressing**
 - C. Silicone grease
121. When testing the load radius indicator how can we check for accuracy?
- A. By using the test button
 - B. By checking duty charts
 - C. By measuring the distance from centre of rotation to vertical centre line of hook**
122. Level plugs, sight glasses and dipsticks are often found on gearboxes for what purpose?
- A. To check the temperature of gearbox
 - B. To check oil levels**
 - C. To check viscosity of oil
123. When preparing your crane set up plan on site what hazards would you need to take into consideration?
- A. Ground condition**
 - B. Overhead / underground services**
 - C. Vehicle movement + site / restrictions**
 - D. Bridges (weight + height restrictions)**
 - E. Surrounding structures**
 - F. Dangerous materials**
124. What would reduce the risk of hazards on a site?
- A. Ensure correct personnel protective equipment is worn**
 - B. Following company safety policy / method statements**
 - C. Organize traffic control and erect warning signs**
 - D. Good lighting**



125. Why is it important that all crane operators/ banksman agree on the signal methods before lifting a load?
- A. They do not have to it is not important
 - B. So they can work as a team
 - C. Safety of job**
126. You are operating a static crane, which has a capacity of 5000kg at 20m. You have been asked to lift a load of 6000kg at 21m what should you do?
- A. Refuse to lift as it is outside cranes capacity**
 - B. Override limit switches
 - C. Lift load slightly of the ground and reduce radius of crane
127. Cranes and lifting equipment are involved in more serious accidents than any other type of construction equipment?
- A. True**
 - B. False
128. Crane and lifting equipment accidents are more costly in terms of insurance?
- A. True**
 - B. False
129. Cranes and lifting equipment are one of the major causes of construction site fatalities?
- A. True**
 - B. False
130. It is important to make sure work platforms; ladders and railings are kept secure. Why?
- A. To keep site agent happy
 - B. For personnel safety**
 - C. In case HSE inspectors visit the site
131. What is the purpose of counter weights fitted to your crane?
- A. To counter act the weight of the jib
 - B. To counter act the weight of the jib +load**
 - C. To counter act the weight of the load



132. When operating in confined air space with another crane what might the dangers be?
- A. Jib striking other cranes load / hoist rope
 - B. Hoist rope of one crane catching counterweights of other crane
 - C. **Both A and B**
133. When should an overload limit switch be activated?
- A. 2% after overload
 - B. 4% after overload
 - C. **5% after overload**
134. How would you ensure overload safeguards are working properly?
- A. Use test button **(Test button only proves positive feed to system)**
 - B. Known weight to a known location
 - C. **Both A and B**
135. What is the minimum thickness of timber you would use for the base layer of packing under an outrigger pad?
- A. 20mm
 - B. **75mm**
 - C. 90mm
136. When setting up a crane, would you place the top layer of packing in line with the outrigger pad or at right angles to the outrigger pad?
- A. Inline
 - B. **Right angles**
 - C. Does not matter
137. In what position would you place a layer of outrigger packing to the previous layer of packing?
- A. **Right angles**
 - B. In line
 - C. Does not matter
138. What would be the effects of overloading a crane?
- A. **Overturning**
 - B. **Structural damage**
 - C. None of the above



139. Which has the greater bearing pressure, soft clay or dry sand?

- A. **Dry sand**
- B. Soft clay
- C. Both the same

140. Your crane has a maximum lift capacity of 20 tonnes and a maximum number of 6 falls of rope. What's the maximum weight your crane can achieve with one fall of rope?

20 ÷ 6 = ___ 3.3 ___ tonnes per fall of rope

141. If a crane has a fly jib stowed on the main boom section, how would this affect the safe working load of the crane?

- A. Increase because of more weight to ballast crane
- B. **There may be a reduction in the safe working load**
- C. Never operate with fly jib attached on side of main boom

142. How would you know if a hydraulic boom could be extended when lifting a load?

- A. **As specified by the load chart**
- B. As per banksman signals
- C. Never extend boom

143. When using the front stabiliser under the chassis. What would the correct procedure be?

- A. Retracted last and down first
- B. **Retracted first and extended last**
- C. No special way of extending / retracting

144. When your fly jib is 15 degrees offset, if it was offset at 0 degrees, How would this affect your load?

- A. Increase capacity
- B. **Decrease capacity**
- C. Stay the same

145. Your fly jib requires rated lifting capacities were would this information be found?

- A. Ask Crane Co-ordinator
- B. **Check crane duty charts + angle of the fly jib**
- C. Call manufacture for assistance