

## ТЕМА 2.3.10 СТРОИТЕЛЬНЫЕ КРАНЫ CRANES

### 1. Read the text and complete the statements.

1. The text tells us about...
2. It specifies...
3. The text also mentions...

A crane is a type of machine, generally equipped with a hoist rope, wire ropes or chains, and sheaves, that can be used both to lift and lower materials and to move them horizontally. Modern cranes are used for many purposes. Most of them are convertible. Versatility is added to the crane by different attachments and devices to be hooked to the end of the hoist line to handle materials. These devices include buckets for loose bulk material and concrete, hooks and grapples for lumber, pipes and drums.

Cranes exist in a variety of forms and sizes. The basic types are mobile and fixed cranes. Mobile cranes possess mobility, a great feature for a construction crane. However, only a few of them can travel on the road to job sites, while others require special transportation. They are manoeuvrable around the site and adjustable for better reach. A fixed crane is permanently mounted to the ground or to a structure such as a building. Fixed cranes are typically larger and more powerful than mobile cranes and can lift heavier loads. A tower crane is the most commonly used type of fixed cranes.

### 2. Explain the word combinations in your own words.

Different attachments, the hoist line, loose bulk material, grapples, mobile cranes, fixed cranes, job sites, mounted to the ground.

### 3. Work in pairs. Discuss the questions.

1. What is a crane?
2. What is a crane used for?
3. What are the basic types of cranes?

### 4. A. Use the QR-code and watch the video How Tower Cranes are Built.



### B. Match the words and word combinations to their Russian equivalents.

- |                        |                               |
|------------------------|-------------------------------|
| 1. trolley             | a) грузоподъемность           |
| 2. jib                 | b) соединительные элементы    |
| 3. counter jib         | c) эксплуатационные испытания |
| 4. mast                | d) поворотная платформа       |
| 5. turntable           | e) мачта                      |
| 6. performance testing | f) стрела противовеса         |
| 7. connecting members  | g) стрела крана               |
| 8. lifting capacity    | h) тележка                    |

### C. Watch the video How Tower Cranes are Built again and put the steps of tower crane installation in the correct order.

A. The turntable with the operator cabin is added to the crane. B. The counter jib is usually then assembled and made ready to be installed. C. Performance testing is then conducted to test the crane to 100% of its lifting capacity. D. With all the main mechanical parts in place the final stage is setting the motion limits for the hoist and trolley. E. The first step is to mount the base section into the ground using specially designed foundations. F. In order to make the crane functional the ropes also need to be installed. G. The main working jib is elevated and attached to the turntable. H. Other mast sections are then continuously added to the base until the required height is reached. I. The tower top is added on top of the turntable after it is installed and connecting members for the crane's jibs are added to the mast. J. The ballast is added to the counter jib. K. The crane's trolley is installed.

### D. Speak about tower crane installation according to the ex. 4. C.

