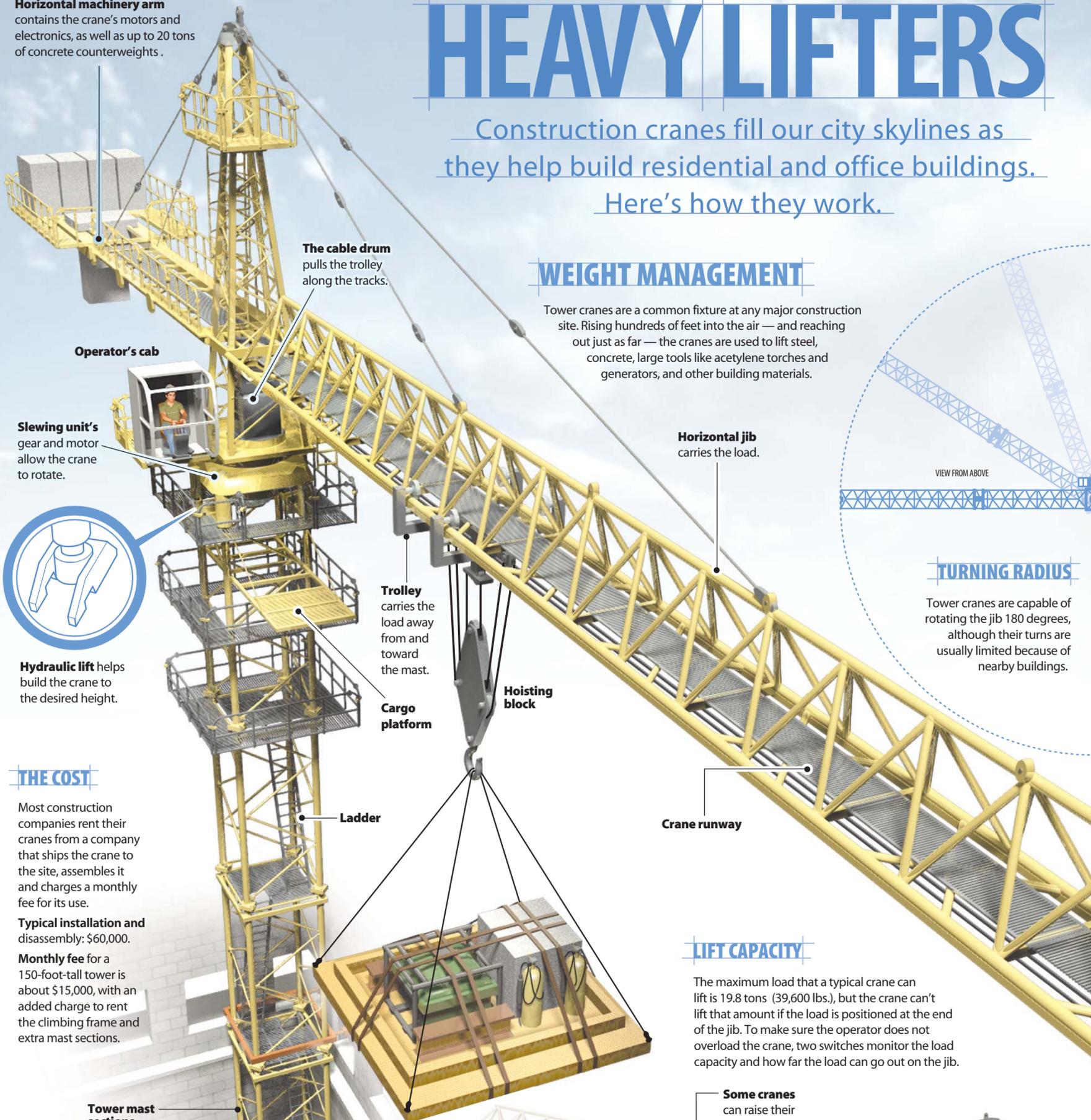


HEAVY LIFTERS

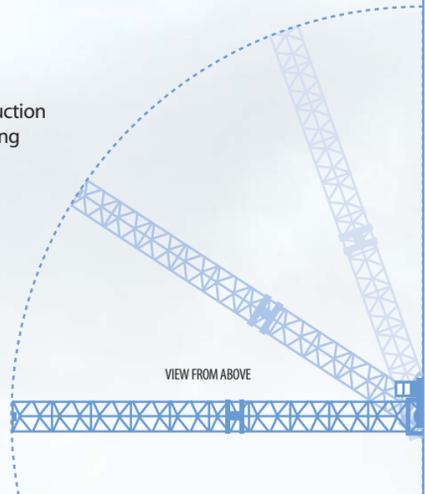
Construction cranes fill our city skylines as they help build residential and office buildings. Here's how they work.

Horizontal machinery arm contains the crane's motors and electronics, as well as up to 20 tons of concrete counterweights.



WEIGHT MANAGEMENT

Tower cranes are a common fixture at any major construction site. Rising hundreds of feet into the air — and reaching out just as far — the cranes are used to lift steel, concrete, large tools like acetylene torches and generators, and other building materials.



TURNING RADIUS

Tower cranes are capable of rotating the jib 180 degrees, although their turns are usually limited because of nearby buildings.

THE COST

Most construction companies rent their cranes from a company that ships the crane to the site, assembles it and charges a monthly fee for its use.

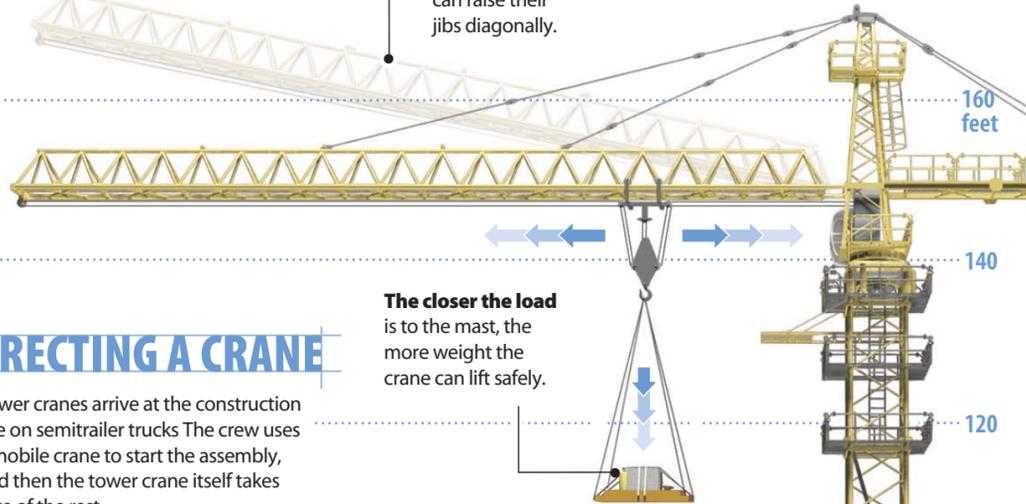
Typical installation and disassembly: \$60,000.

Monthly fee for a 150-foot-tall tower is about \$15,000, with an added charge to rent the climbing frame and extra mast sections.

LIFT CAPACITY

The maximum load that a typical crane can lift is 19.8 tons (39,600 lbs.), but the crane can't lift that amount if the load is positioned at the end of the jib. To make sure the operator does not overload the crane, two switches monitor the load capacity and how far the load can go out on the jib.

Some cranes can raise their jibs diagonally.

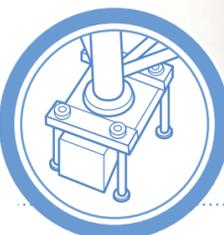


FIRMLY GROUNDED

A tower crane is usually bolted down with large anchors to a concrete pad at the base. A typical crane can reach an unsupported height of 265 feet — higher if it is tied to a building.

Crane tied to a structure

Weights on the base



ERECTING A CRANE

Tower cranes arrive at the construction site on semitrailer trucks. The crew uses a mobile crane to start the assembly, and then the tower crane itself takes care of the rest.

