Tower Crane Features and Benefits

**Self-erecting tower cranes** have long been commonplace in Europe. Their versatility and reliability have made them a mainstay on the European jobsite. That same versatility and reliability is now practical for the Canadian market. Roblin Crane Services can provide you with self-erecting cranes for all your lifting needs.

**What Is a Self-erecting Tower Crane?**

A self-erector is a tower crane that is designed to be easily and rapidly transported and erected without the assistance of a large hydraulic crane.

A range of models with varying capacities exist. In the hierarchy of cranes, their capacities are below those of larger "city" tower cranes and are viable for residential and commercial projects six stories and under.

A self-erecting tower crane "folds up" upon itself -- generally in four or more sections -- when being readied for transport. The tower typically folds into two sections and the jib, depending on its length, will fold into two or more sections. When folded up, the crane's size is such that it is ready and legal for transport, either on its own mounted highway axles or via flatbed transport.

From the time crane erection begins until the crane is fully unfolded is typically between fifteen and thirty minutes. Calibration and testing must be done once the crane is erected and prior to use, but the overall duration from the time erection begins until the crane can be in use is a matter of hours -- typically two to three.

Smaller self-erectors hold and are transported with their full requirement of ballast, or counterweight permanently attached. Most, beyond the smallest have additional ballast that is transported and set in place separately. Cranes that have their full requirement of ballast permanently attached are referred to as "self-contained".

**Self-erecting Tower Crane Features**

- operable on tight-boundaried jobsites and impassable jobsites where other material handlers (like all-terrain forklifts or telehandlers) cannot perform
- excellent reach (from 80 feet and up, depending on model)
- minimal erection and set-up time
- effective material lifting capacity (tip loads from 1,000 pounds and up, and maximum loads from 2,000 pounds and up, depending on crane model)
- useful clearance (hook heights from 55 feet and up, depending on crane model)
- minimal jobsite "footprint" -- between a 10 foot x 10 foot footprint and 14 foot x 14 foot, depending on crane model
- quiet operation (they run on electricity)
- operates on 480v three-phase electricity
- stationary, once erected
- environmentally friendly
- easy to operate, with a short learning curve
- radio remote control
- minimal maintenance
- virtually no downtime
- safe operating techniques
- very affordable to rent, and operate
- high value retention and long useful life

**Self-erecting Tower Crane Benefits**

The ultimate benefit of self-erecting tower crane usage is, quite simply, *value* -- savings (in construction costs resulting from using the crane) that outweigh cost (to rent and operate the crane).

Cranes users generally report a reduction in manual labour hours equivalent to four or more persons. They also report shortened job completion times -- primarily during the framing cycle -- of 15% or more, and reduced need for multiple pieces of material handling equipment. And these cranes are much less impactful to the environment as well.

The benefits that drive these results follow, and are accomplished by the crane features and uses described previously:

**Improved Efficiency and Productivity**

- for crews that rely on their carpenters to perform the requisite manual labour to get their jobs done, a crane can remove much of the manual labour performed by carpenters freeing them up to focus on what you pay them to do -- carpentry; the result is an improvement in productivity that also improves carpenters' morale and leaves them much fresher at the end of a long day
- use of dedicated staging areas results in a more efficient assembly of construction components (wall sections, roof sections, built-up beams, etc.); materials required in the staging area can be placed in the staging area when needed, and, since navigation of other material handling equipment (like telehandlers) is not necessary, the staging areas do not continually have to be moved or disturbed to allow passable access for that equipment
- crane does not require a dedicated operator; rigging and operating can be done by a single person and, with the use of the remote control, the operator can move with the load, reducing the need for someone to "guide" the operator
- single-person operation for many tasks that otherwise would require multiple people (lifting and setting trusses, lifting and setting rafters, etc.)
- minimal footprint of crane leaves much more room on jobsite for material storage, staging areas, etc.
- materials do not need to be handled or moved multiple times to make way for mobile equipment; material can be initially delivered to a "receiving" location and then dispersed a single time to the location of need when needed -- the right material, the right quantity, when needed, delivered once
Self-erecting Tower Crane Uses

Self-erecting tower cranes have many uses on the jobsite. These cranes represent a new and different way to handle jobsite material handling and hoisting tasks. Therefore, you will find new and different uses for these cranes beyond your customary techniques. In fact, our customers come up with new uses for these cranes on nearly a daily basis. Here is a sample of uses:

- placing jobsite material (lumber, engineered floor joists, trusses, masonry, etc.)
- raising complete wall sections (first level, lower level, upper levels, interior, exterior, etc.)
- hoisting, positioning, and setting trusses and/or roof rafters
- after you assign dedicated staging/assembly areas, the crane can be used to place materials into those areas, and then remove and position assemblies in place; assemblies include exterior wall sections, interior wall sections, roof sections, gables, dormers, built-up wood and micro-laminated LVL beam sections, etc.
- setting of steel beams, wood and micro-laminated LVL beams, & interior structural and decorative timbers
- picking up trash receptacles and dumping them directly into your jobsite dumpster
- placement of roof sheeting
- placement of roofing shingle bundles
- positioning workers, via a "man basket", to set windows, install siding, install exterior trim, paint, install and/or clean gutters, clean windows, etc.
- access hard-to-reach areas to place or work on assemblies like chimney tops, cupolas, high eaves, gutters, etc.
- placement of concrete via a concrete skip

This is just a sampling of these cranes’ uses. You will continually innovate and find new uses that improve jobsite efficiency and safety.

Decreased Equipment and Labour Costs

- a single self-erecting tower crane eliminates the need for multiple pieces of material handling equipment like mobile cranes, telehandlers or all-terrain forklifts, boom trucks, etc.
- reduced fuel costs to operate material handling equipment
- can be used on jobsites with tight boundaries or impassable terrain where the only real material handling option typically is manual labour
- a crane is a "model employee":
  - it is on-time to work
  - it doesn’t talk back
  - it is reliable and dependable
  - it never gets tired
  - it won’t ever file a workers’ comp claim
- for crews that employ dedicated labourers, the many crane uses (trash removal, material handling and lifting, etc.) reduce much of the need for labourers
- the ability to place materials and assemblies anywhere on the jobsite, including inside the structure (and not just at the perimeter, a limitation of telehandlers for instance), reduces the need for manual labour to perform that task
- quick, easy setup
- jobsite safety is improved due to the decreased need for manual tasks, also drastically reducing workers’ comp claims

Environmental Benefits

- operate on electricity from a generator
- does not leave deep ruts or disturb surrounding terrain as a result of machinery navigating the jobsite

Contact Roblin Crane Services Ltd for rental information:

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