Challenge: Smoothest, most precise control of the load on the hook.
- Challenge: Provide maximum accessibility to the machinery deck for service.
- Challenge: A revolving frame with the versatility for multiple functions and the ruggedness required for duty-cycle work.
- Challenge: Provide a large-capacity drum configuration that will meet any rigging requirement.
- Challenge: Design the smoothest, most precise, safest boom hoist system.
- The smoothest possible swing for accurate load handling... plus extra power for duty-cycle work.
- Challenge: Design a modular power plant for easy accessibility, interchangeability and optimum for all types of work.

...the smoothest operating upper machinery ever designed for a big crawler crane... combined with optimum cost-efficiency, strength and ease of service access.

Response: The Delta 5250 has the smoothest and most precise control of the load on the hook of any crane in its class. The cam-controlled levers the operator uses perform three functions: load hoist, boom hoist and swinging.

The load is raised through a torque converter with modulated clutch control. The engine runs at constant, full-load speed for greatest efficiency. The dual hoist drum clutches are set through power hydraulics by pulling back the hoist lever. The load can then be raised, lowered or lowered by a hold grip on the swinging lever, which controls the modulated clutch. Precision load lowering can be performed three ways:

- Through the torque converter, by easing off on the modulated clutch control. The most precise method for lowering very heavy loads—easing the load down as slowly as you can handle it.
- Power load lowering. Optional, modulator power load lowering units can be installed on any of the four drums. By pushing forward on the hoist lever, the unit reverses the direction of the drum and drives the load down in a positive manner. Speed is controlled through the modulated clutch and brake.
- Free-falling the load on the brake. Placing the hoist lever in neutral releases the clutches and allows the drum to turn freely, bowing the load by gravity. This method is used for light loads and for duty-cycle work when lowering an empty bucket. The load is stopped by the brake. The Delta 5250 has dual brakes on each drum, applied by a variable-actuated hydraulic system. A light touch on the pedal applies the brake with direct hydraulic force (not load force) on the drums. Further pedal-actuated release releases hydraulic fluid under power for heavier loads. The "feel" is adjustable to the operator's preference. The free-fall feature can be expanded by installing automatic brakes that cut out when the hoist lever is returned to the neutral position.
Response:
The Delta 5590 sets the industry standard for serviceability. For example, the hinged doors which guard the gears from inadvertent contact can easily be removed by lifting them out of the hinges. A separate engine enclosure dampens noise and protects the machine from wind. The enclosure is easily removed without tools.

- Brake band adjustment is quickly completed through the access doors on the machine cab roof.
- Drum assemblies can be quickly removed for service by removing only part of the machine cab and the four pillow block bearings.
- Modular design of the swing drive unit, propeller drive unit, boom hoist unit, power lowering unit, and the power plant allows quick easy removal and replacement to reduce equipment downtime.
- Gearbox has a self-lubricating bearing completely eliminating the need for regular maintenance.
- Fluid levels can be quickly checked with sight gauges and dip sticks.
- Hydraulic fluid filters are quickly checked via easy-to-read indicators. Replacing electrical and hydraulic systems is quick and easy because all wires and hoses are numbered and in addition, "11" markings on selected hydraulic lines allow quick checking of hydraulic pressure.
- The automatic track lubrication system eliminates the need for regular maintenance.

Response:
The Delta 5590's all-welded revolving frame represents the optimum combination of cost efficiency and strength. The Delta 5590 has the widest boom foot in its 250-ton class--109°. It better distributes stresses under full load and better enables the Delta 5590 to take side loading, making it ideal for daily cycle work. The Delta 5590's robustness and strength are the industry's highest in its class.

Long and wide sidebars provide space for these extra-large tandem drums. The rear portion of the revolving frame is reinforced to withstand the stresses induced by daily cycle service. Precise location of all mechanical surfaces is guaranteed by machining on tape-controlled gantry mills. Precise location and rigidity of all brake anchors and operating components assure optimum hoist brake performance.

Response:
The Delta 5590 has unmatched hoist drum capacity. Three wide drum shafts with friction-type clutches each provide over 1765 ft. of working capacity with 1/4" wire rope. Each allows storage of more than 3000 ft. and is equipped with double clutches and double brakes. Large-diameter drum shafts mounted in pillow blocks are designed to withstand the shocks induced by daily cycle service.

The rear drum can be split to provide two independent drums for use with 1/4" wire rope. Each of the four independent hoist drums can be equipped with a power load lowering option and drum wear indicators. The fourth drum can be equipped with high-speed capability to provide 600 ft. line speed with 10,000 lb. line pull.