ANSI/ASME B 30.5

SCA1000A

110 UST (100 mt) Crawler Crane

SANY

Max Boom Length: 210ft (64m)
Max Fixed Jib Combination:
170.6ft + 73.8ft (52m + 22.5m)

The parameters and diagrams in the brochure is only for reference, which is subject to further update in real machine.

www.sanyamerica.com

SCA1000A

Sany Crawler Crane

A

SCA1000A
SANY CRAWLER CRANE
110 UST (100 mt) LIFTING CAPACITY

MADE FOR AMERICA

Main Characteristics

01

Product Specification

Engine

- Model: Cummins QSL9-C325 Diesel engine;
- Type: 4-stroke, water-cooled, vertical in-line 6 cylinders, direct injection, turbo-charger, intercooler, complied with European Off-highway Stage V Emission Standard and US EPA Tier F4(f) Emission Standard;
- Displacement: 543 in^3 (8.9L);
- Max. Rated Power: 324 HP/1800rpm;
- Max. Torque: 1,126 ft-lb/1400rpm;
- Starter: 24V-8 HP;
- Radiator: fin type aluminum plate core;
- Air cleaner: Dry type system with main filter element, safety element and resistance indicator;
- Throttle: Electrically control hand and foot throttle;
- Fuel filter: Replaceable paper element;
- Batteries: Two 12V×165Ah capacity batteries, connected in series (24V system);
- Fuel tank capacity: 105.7Gal (400L).

Hydraulic System

- Main pumps: Three variable displacement piston pumps provide power for the main machine functions;
- Gear Pumps: Two gear pumps provide power for radiator and control circuit;
- Control: Electrically controlled positive hydraulic flow control allows for safe and precise multifunction operation;
- Oil Cooler: Fan cooled heat exchanger provides multi stage hydraulic oil cooling;
- Peak flow, high efficiency filter with bypass valve and replacement filter indicator. Indicator will remind user when its time to replace filter;
- Max. pressure of system: 4641 psi;
- Main/aux. load hoist, boom hoist and travel system: 4641 psi;
- Swing system: 4641 psi;
- Control system: 725 psi;
- Hydraulic Tank Capacity: 121.5 Gal (460L).

Electrical Control System

- Self-developed SYIC-II integrated control system is adopted with higher integration, precise operation and reliable quality;
- Control system consists of power system, engine system, main control system, LMI system, auxiliary system and safety monitoring system. CAN BUS is used for data communication between controller, monitor and the engine;
- Monitor: the working parameters and status are shown on the monitor, such as the engine speed, fuel level, engine oil pressure, servo pressure, engine working hours, lifting conditions and boom angle.

Product Specification

Main and Aux. Hoist Winch

- Main and aux. hoist winches are driven separately. Single axis control handles allow for power up/down and free fall winch operations. Fine inching control is standard and allows for precise operation;
- Winch drum laggings are grooved for multilayer spooling;
- Free fall for main/aux. hoist winch is offered as standard.

Main Hoisting Winch	Drum diameter	24.80" (630mm)
	Rope speed on the outermost work layer	0~397.0 ft/min (0~121m/min)
	Wire rope diameter	1.02" (26mm)
	Wire rope length of main hoist	787.4' (240m)
	Rated single line pull	26.5Klb (12t)
Auxiliary Hoisting Winch	Drum diameter	25.00" (630mm)
	Rope speed on the outermost work layer	0~397.0 ft/min (0~121m/min)
	Wire rope diameter	1.02" (26mm)
	Wire rope length of auxiliary hoist	590.5' (180m)
	Rated single line pull	26.5Klb (12t)

Optional 3rd Winch

Optional 3rd winch is connected with boom base with pins and driven separately by variable speed hydraulic motor and gearbox. Dual axis control handle allow for power up/down operations. Fine inching control is standard and allows for precise operation.

- Winch drum laggings are grooved for multilayer spooling.

Optional 3rd Winch	Drum diameter	20.6" (522mm)
	Rope speed on the outermost work layer	436.4 ft/min (0~133m/min)
	Wire rope diameter	0.9" (22mm)
	Wire rope length	426.5' (130m)
	Rated single line pull	19.8Klb (9t)

Boom Hoist Winch

- Boom hoist winch is driven separately by motor via gearbox. Single axis control handle allow for boom up/down operations;
- Spring loaded brake is hydraulic released;
- Winch drum laggings are grooved for multilayer spooling.

Boom Hoist Winch	Drum diameter	15.7" (400mm)
	Rope speed on the outermost work layer	0~194 ft/min (0~59m/min)
	Wire rope diameter	0.79"" (20mm)
	Wire rope length of boom hoist	459.3' (140m)
	Rated single line pull	15.4Klb (7t)

Swing Mechanism

- Swing Brake: Spring applied wet brake that is normally closed providing controlled smooth braking;
- Swing system has three work modes to accommodate different needs: auto brake mode, free swinging mode, and fine inching mode;
- Swing drive: internal engaged swing drive with 360° swing range, max. swing speed is 3.5 rpm;
- Swing bearing: single row ball bearing.

Cab and Control

- Operator's cab has a hinged lockable door and large windows providing excellent line of sight. The cab tilts up 20° providing the operator a panorama view and reducing fatigue. The cab and control layout allow for ergonomic operation keeping the operator comfortable;
- Monitor: 10.4" touch screen with simple user friendly interface;
- Armrest Console: Control handles electrical switches, emergency stop, and ignition switch are located on the left and right. Arm console can be adjusted independent of the seat;
- Seat: Multi-way adjustable floating seat;
- HVAC: Powerful air conditioner and heater with optimized vent locations;
- Cameras: Multiple cameras can be displayed on the monitor at the same time. This provides the operator with a real time view of winches, right side of machine, rear of machine , and view from boom tip.
- Single axis controls for travel, main, aux, and boom hoist winches. Dual axis controls for swing and 3rd drum operation.

Counterweight

- Counterweight tray and blocks nest together for easier assembly and transport;
- Rear counterweight can be self-assembled , total 68.8Klb (31.2mt);
- Self-assembled counterweight: tray 21.8Klb (9.9mt)×1, left counterweight block 7.6Klb (3.45mt)×3, and right counterweight block 7.6Klb (3.45mt) × 3, cylinder bracket 1.3Klb (0.6mt)x1;
- Carbody counterweight: 12.1Klb (5.5mt)×2 at the front and rear of carbody.

Upperworks

- High-strength steel welded frame. Design allows for easy maintenance and service.

Product Specification

Lowerworks

- Each side frame is equipped with an independent travel driving motor. The variable speed travel system is configured with speed options to meet various requirements: low speed provides max tractive effort, while high speed provides fast job site transfer.

Crawler Extension and Retraction

- The crawlers can extend and retract via cylinders. During Work Mode, the crawlers must be extended, and can be retracted for transportation.

Crawler Tensioning

- Crawler tensioning can be adjustable with hydraulic jack and shimming the guide wheel.

Track Pad

- Manufactured by advance casting techniques and materials providing high strength and excellent wear resistance. 33.5" (850mm) wide and each side frame has 52 track pads.

Jack Cylinder

- Standard jack cylinders make jobsite transport easier.

Self-assembly Cylinder

- Self-assembly cylinder is standard and allows the counterweight and side frames to be self-assembled.

Operating Equipment

- All chords are high-strength steel tubes, and the boom/jib top sheaves are made of high-strength anti-wearing Nylon material protecting wire rope. The hook blocks have grooved steel sheaves. Pendant cables with quick hitch connector that are easy to assemble.

Boom

- Lattice structure with high-strength steel chords. Each section is pinned together with pins;
- The length of the boom ranges from that (42.7ft/13m) of the basic boom to the maximum length (210ft/64m) and it can be incrementally changed by 9.8ft (3m).

Fixed Jib

- Lattice structure with high-strength steel chords. Each section is pinned together with pins;
- The length of the fixed jib ranges from that (29.5ft(9m) of the basic jib to the maximum length (73.8ft(22.5m) and it can be incrementally changed by 14.8ft(4.5m);
- Longest boom + fixed jib: 170.6ft (52m) boom +73.8ft (22.5m) jib.

Auxiliary Tip Extension

- Is a welded structure with one sheave that is connected to the main boom with with pins. It is used for aux. hook operations;
- Length of auxiliary tip extension is 3.9ft (1.2m).

Hook Block

- 110 UST hook block, 5 sheaves;
- 55 UST hook block;
- 28 UST hook block;
- 15 UST ball hook.

Safety Device

Assembly Mode/Work Mode Switch

- In Assembly Mode, some safety devices are disabled for crane assembly;
- In Work Mode, all safety devices are active.

Emergency Stop

- When this button is pressed down to cut off the power supply of whole machine and all actions stop.

Load Moment Indicator (LMI)

- The proprietary load moment indicator is independently developed by Sany, which is a specially designed over-load protective system for SCA series crawler crane, with performance structural parameters of all series of crawler cranes directly stored inside, such as bearing curve, boom and jib weight, center of gravity, and other geometrical parameters. This system maximizes the utilization efficiency of the crane while guaranteeing the lifting safety;
- LMI consists of a 10.1" large colorful display, computer, angle sensors, load sensors and pressure sensors.

Over-hoist Protection of the Main/Auxiliary Hooks (Anti Two Block)

- It is used to prevent the over-hoist of the hook. When the lifting hook is raised to a certain height, the limit switch will is activated, and hook hoisting will be automatically cut off by the control system. Warning will be displayed in monitor and alarm will sound. At this moment, only hook lowering is allowed to prevent over-hoist action.

Over-release Protection Device of the Main/Auxiliary Winch (Third Wrap Indicator)

- It is used to prevent the wire rope over-release. When the wire rope is released to the last three wraps, the limit switch will activate, and the releasing of rope will be automatically stopped by the control system. Warning will be displayed in monitor and alarm will sound. At this moment, only rope retraction is allowed to prevent over release action.

Function Lock

- If the function lock level is not in work position, all the other handles won't work, which prevents any mis-operation caused by control handle movement.

Boom Hoist Drum Lock

- Pawl lock is used on boom hoist winch, which needs to unlock by switch before operation, in order to prevent mis-operation of handles and ensure safety during nonwork time.

House Lock Device

- House Lock can lock the machine at four positions, front and back, left and right.

Boom Limit Device

- When the boom angle exceeds 80° or jib angle exceeds 65°, corresponding limit switch will be triggered, and the control system will automatically cut off the boom hoisting. Warning will be displayed in monitor and alarm will sound. At this moment, boom/jib luffing winch won't hoist but it can still lower down.
- When the boom angle is less than 30° or jib down angle is less than 15°, the control system will automatically cut off the boom/jib from further lowering. Warning will be displayed in monitor and alarm will sound. At this moment, boom/jib luffing winch won't be able to lower. This protection is automatically controlled by Load Moment Indicator.

Back-stop Device

- Its major components are nesting tubes and spring, in order to buffer the boom and prevent boom overhaul.

Boom Angle Indicator

- Pendulum angle indicator is fixed on the side of boom base close to the cab, so as to provide convenience to the operator.

Hook Latch

- The lifting hook is installed with a baffle plate to prevent wire rope from falling off.

Product Specification

Zoom Camera

- It can monitor load lifting on the main hook and the surroundings at real time. The camera can zoom in/out as needed.
- Components: wireless remote transmitter, wireless remote receiver, zoom camera.

Lightning Protection Device

- It is offered as an optional feature, which includes the grounding device that can effectively protect the electric system elements and workers from lightning.

Tri-color Load Indicator

- The load indication light has three colors, green, yellow and red, and the real time load status is presented on the display. When the actual load is smaller than 90% of rated load, the green light is on;
- When the actual load is larger than 90% and smaller than 100%, the yellow light is on, the alarm light flashes and sends out intermittent sirens;
- When the actual load reaches 100% of rated load, the red light is on, the alarm light flashes and sends out continuous sirens;
- When the actual load reaches 102% of rated load, the system will automatically cut off the crane operation.

Audio-Visual Alarm

- Lights flash when the engine is running. During travel and swinging and audible alarm is sounded.

Swing Indicator Light

- The swing indicator light flashes during traveling or swing.

Illuminating Light

- The machine is equipped with the low beam light and high beam light at the front of the cab, illumination light in cab, and other lights for night operation, boom lights to improve the visibility during operation.

Rear View Mirror

- It is installed on the left of the operator's cab for monitoring the rear part of the machine.

Pharos (Aircraft Warning Light)

- Light mounted on the top of boom/jib that flashes at night.

Anemometer

- It is mounted on the top of boom/jib, and displays the wind speed on the monitor in the cab.

Electronic Level Gauge

- It displays the tipping angle of crane on the monitor in real time, protecting the machine from dangerous situation.

Operation Release

- If the operator leaves the seat, all control handles will be locked immediately to prevent any mis-operation due to accidental collision.

Engine Power Limit Load Adjustment and Stalling Protection

- The controller monitors the engine power to prevent engine getting stuck and stalling.

Engine Status Monitoring

- The engine status will be presented, such as engine coolant temperature, fuel level, total work hours, engine oil pressure, engine speed, battery charging, voltage.

Service

When we say that SANY machines are built to endure, we're really talking about service. SANY equipment is intentionally designed to be easily and efficiently serviced, with features such as wide compartment doors and easy access to make maintenance more efficient. Because ease of service means back in service.

We've Got Your Back

To provide peace of mind and ensure maximum uptime, all SANY cranes are backed by a robust 3-year/3,000-hour standard warranty. That's our commitment to keeping your fleet running at peak performance.

SANY America Inc.

318 Cooper Circle

Peachtree City | GA 30269

| T | 470-552-SANY

***WARRANTY APPLIES TO 2022 MODELS**

CRABR22SCA1000A001

sanyamerica.com