STERLING CRANE

LIFTING CHARTS - All Terrain Cranes

GROVE MODEL GMK7550 - 550 TON CAPACITY

specifications

Superstructure

Boom

53 ft. - 197 ft. (16 m - 60 m) five section, full power boom with patented TWIN-LOCK™ boom pinning system. Maximum tip height: 207 ft. (63 m).

Boom Elevation

Two lift cylinders with safety valves provide boom angles from -3° to +82°.

Lattice Jib

Luffing jib is a lattice design with lengths of 82 ft. -240 ft. (25 m - 73 m) in sections of 20 ft. (6 m). The luffing jib converts to a fixed offset lattice jib providing lengths of 39 ft. -230 ft. (12 m - 70 m) offsettable at 3° and 25°.

Load Moment & Anti-Two Block System

Graphic display load moment and anti-two block system with audio/visual warning and control lever lockout. These systems provide electronic display of boom angle, length, radius, tip height, relative load moment, maximum permissible load, load indication and warning of impending two-block condition.

Cab

All aluminum construction cab is tiltable (approximately 20°) and includes safety glass and adjustable operator's seat with hydraulic suspension. Other features include engine dependent hot water heater, air conditioning, armrest integrated crane controls, and ergonomically arranged instrumentation. Cab hydraulically stows to the rear of the superstructure for highway travel.

Swing

3 axial piston fixed displacement motors provide swing speed of 0 - 1 RPM thru planetary gear box. Also provided is a spring applied, hydraulically released automatic swing brake with foot operated release for free swing.

Counterweight

264,500 lbs. (120 Tonnes) consisting of various sections with hydraulic installation/removal system (see counterweight configuration on page 8).

Engine

Mercedes OM906LA, diesel, 6 cylinders, water cooled, turbocharged, 255 HP (190 kW) at 1800 rpm. Max. torque: 811 ft./lbs. (1100 Nm) at 1300 rpm. Engine emission: EUROMOT/EPA/CARB (off highway).

Fuel Tank Capacity

79 gal. (300 L).

Hydraulic System

5 separate circuits, 3 axial piston variable displacement pumps with electronic power limiting control, 1 axial piston variable displacement pump for slewing and 1 fixed displacement pump for auxiliary gears. Standard thermostatically controlled oil cooler keeps oil at optimum operating temperature. Tank capacity: 428 gal. (1620 L)

Control system

Full electronic control of all crane movements is accomplished using electrical control levers with automatic reset to zero. Controls are integrated with the LMI and engine management system by CAN-BUS.

Hoist

Main and auxiliary hoist are powered by axial piston variable displacement motor with planetary gear and brake. "Thumb-thumper" hoist drum rotation indicator alerts operator of hoist movement.

	Main Auxiliary	Auxiliary
Line length:	1509 ft. (460 m)	2,264 ft. (690 m)
Rope diameter:	24 mm	24 mm
Line speed:	443 ft/min (135 m/min)	443 ft/min (135 m/min)
Line pull:	24,729 lbs. (110 kN)	24,729 lbs. (110 kN)

Electrical system

24 V system with three-phase alternator 28 V/100 A
2 batteries 12 V/170 Ah.

* Optional equipment

* Engine-independent hot water heater, with engine pre-heater
* Second spotlight
* Stereo/CD player
* Lift enhancement system
* 360° positive swing lock

* Denotes optional equipment

specifications

Carrier

Chassis

Special 7 axle carrier, welded torsion resistant frame is fabricated from high-strength steel.

Outrigger System

Hydraulic two-stage outrigger beams are extended by a single hydraulic cylinder and two cables. Outriggers can adjust to two positions:

Fully extended (100%) - 29' 2" (8.9 m)
Partially extended (50%) - 20' (6.1 m)

Four 32 in. x 32 in. (810 mm x 810 mm), self stowing, steel outrigger pads provide rigid lifting base. Outrigger controls are located on both sides of the carrier. Electronic level indicators are located next to each outrigger control box. Outrigger pad load indication through ECOS and carrier controls.

Engine

Mercedes, diesel, 8 cylinders, water-cooled, turbocharged, 563 HP (420 kW) at 1800 rpm.
Max. torque: 1991 ft. lbs. (2700 Nm) at 1080 rpm.
Engine emission: EPA/CARB (non highway).

Fuel Tank Capacity

132 gal. (500 L).

Transmission

Allison automatic HD 4076, 7 forward and 1 reverse speed. Transfer case with 2 speeds and inter-axle differential lock.

Drive/Steer

14 x 6 x 14.

Axles

7 axles. 1, 4 and 5 are drive/steer. Axles 2, 3, 6 and 7 are steer only.

Suspension

GMK7550 features the Grove exclusive MEGATRAK™ suspension. This revolutionary design features an independent hydroneumatic system with hydraulic lockout acting on all wheels. The suspension can be raised 6-1/2" (170 mm) or lowered 5" (130 mm) both longitudinally and transversely and features an automatic leveling system for on-highway travel.

Tires

14 tires, 16.00 R25.

Steering

Dual circuit steering system is hydraulic power assisted with emergency steering pump.
Axles 1, 2, 3, 6 and 7steer on highway.
Separate steering of the 4th, 5th,6th and 7th axles for all wheel steer and crab-steer, controlled by an electric rocker switch.

Brakes

A dual circuit air system operates on all wheels with a spring-applied, air released parking brake acting on axles 2, 4, 5 and 7. An air dryer is fitted to remove moisture from the air system. Standard engine compression brake and transmission retarder.

Cab

Two-man, aluminum construction driver's cab includes the following features: safety glass; driver and passenger seats with hydraulic suspension, engine-dependent hot water heater and air conditioning. Complete instrumentation and driving controls.

Electrical System

24 V system with three-phase alternator 28 V/100 A, 2 batteries 12 V/170 Ah.

Maximum Speed

53 mph (85 km/h) with 20.5 R25 tires.

Gradeability (theoretical)

32% with 20.5 R25 tires. (14x6x14)
50% with 20.5 R25 tires. (14x8x14)

Miscellaneous Standard Equipment

Boom removal kit; trailing boom kit (less dolly), additional hydraulic oil cooler; removable rear outrigger box, spare tire and wheel; tool kit; fire extinguisher; radio/cassette player in carrier cab.

* Optional Equipment

* 14 x 8 x 14 (1,2,4 and 5 are drive/steer)
* Engine-independent hot water heater, with engine pre-heater
* Tachograph

** Denotes optional equipment*

notes

Symbols glossary

 Axle load

 Boom elevation

 Boom telescoping

 Brakes

 Cab

 Counterweight

 Crane functions

 Crane travel

 Electrical Systems

 Engine

 Fixed swingaway

 Frame

 Fuel tank capacity

 Gear

 Gradeability

 Heavy duty jib

 Main hoist

 Auxiliary hoist

 Hook height

 Lattice extension

 Lights

 Luffing jib

 Main boom

 Off road

 Oil

 Outriggers

 Outrigger controls

 Radius

 Rotation

 Speed

 Steering

 Suspension

 Swing

 Tele-swingaway

 Tires

 Transmission

Travel speed