



## SPX-960 / 960 SV PIPELAYER

Maximum lifting capacity	96,000 kg / 211,200 lbs
Operating weight	61,000 kg / 134,500 lbs
Net flywheel power	324 kW / 440 HP





## OVERVIEW

**T**he SPX-960 is the largest model in SUPERIOR's line of proprietary pipelayers and with a 96-ton lifting capacity, it's also the smallest model in the family.

As with other SPX-Series models, our main focus on the SPX-960 is safety. From industry-standard features –such as the Roll Over Protective Structure (ROPS)– to more unique ones –such as anti-tipping system and wireless anti-two block– there is a wealth of safety features that make this machine the safest pipelayer on the market, bar none.

At the heart of the SPX hydraulic system is a single joystick controller. It features an eight-way control scheme which allows the operator to easily

control both the boom and load with a single movement of the joystick. In addition to the hydraulic system, the SPX-Series improves upon existing designs by adding a hydrostatic system. this state-of-the-art system is controlled by twin levers and allows the operator to execute small and precise movements not possible with a final drive.

The engine, a Tier 3 Caterpillar C6.6 ACERT, provides plenty of power even on the most difficult terrains. A Tier 4 Cat C7.1 ACERT is also available depending on local regulations.





Fig. 1: Hydrostatic system controllers



Fig. 2: Single joystick controller (bottom)



Fig. 3: Control panel: from here the operator monitors speed, travel, pitch, load and other critical information

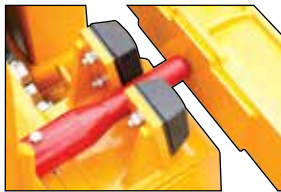


Fig. 4: The boom-kick out system limits vertical travel in order to prevent the boom from bending.

PERFORMANCE

Tier 3/4 engine

The SPX-260 is available with a choice of Caterpillar C6.6 ACERT or C7.1 ACERT Tier 4 engine, depending on the client's needs and local regulations.

Hydrostatic system

State-of-the-art hydrostatic system (fig. 1) ensures safety and reliability and is especially efficient when working on steep grades, allowing the operator to make precise, pin-point maneuvers to couple the pipes.

CONVENIENCE

Hydraulic system

A single joystick (fig. 2) is used to control the system hydraulically. With a single move the operator can lower or raise the boom and load.

Control panel

The control panel (fig. 3) displays all the relevant –and critical– information in an easy-to-read GUI. All the machine's safety features are controlled from this panel.

Counterweight rack

New design which makes the counterweight system easy to assemble and disassemble. The leaves are interchangeable with standard Caterpillar leaves.

SAFETY

Anti-tipping<sup>1</sup>

It prevents the machine from tipping over by calculating the maximum load that can be lifted at the current boom angle.

Free-fall system

When the button is engaged, the load free-falls and immediately stops when the button is released.<sup>2</sup> This is a safety redundancy feature which also prevents the tipping of the machine.

Wireless anti-two block

It sets the minimum distance between the top and bottom blocks, thus preventing collision between the two. Also, wireless means there's no cable dangling alongside the boom.

Boom kick-out system

The boom kick-out system (fig. 4) works by preventing the boom from excessive upward movement. By taking human error out of the equation, this ensures that the operator doesn't bend the boom.

ROPS/FOPS

The Roll Over Protective Structure is designed in such a way to allow the operator a clear view of the top of the boom and the load. An enclosed climatized (A/C and heater) cabin is also available.

FEATURE	SUPERIOR	MIDWESTERN®	CATERPILLAR®
Single lever control	✓	✗	✗
Free-fall system	✓	✓	✓
Vertical boom kick-out	✓	✓	✓
Wireless anti-two block	✓	✗	✗
Anti-tipping system	✓	✗	✗
CE compliance	✓	✗	✓

<sup>1</sup> Improper use of this feature may cause damage to the winch. Read all documentation before use.  
<sup>2</sup> Available only in electronic over hydraulic configuration.



## GENERAL SPECIFICATIONS

### ENGINE

<b>Option 1:</b>	
Type	Caterpillar
Model	C6.6 ACERT Stage III
Net flywheel power (DIN 6270-SAEJ 1349)	202 HP - 150 kW
Governed speed	2,100 rpm
Displacement	6.6 lt - 403 cu in

<b>Option 2:</b>	
Type	Caterpillar
Model	C7.1 ACERT Tier 4
Net flywheel power (DIN 6270-SAEJ 1349)	202 HP - 150 kW
Governed speed	2,100 rpm
Displacement	7.1 lt - 433 cu in

### HYDRAULIC SYSTEM

Main pumps	(Bosch-Rexroth) 3 independent variable pumps
Maximum capacity	2x135 lt/min - 2x27.7 U.S. gal/min
Maximum operating pressure	410 bar - 5,945 p.s.i.
Service pumps	Triple gear
Maximum capacity	31 lt/min - 6.7 U.S. gal/min

### TRANSMISSION

Type	Hydrostatic closed circuit
Brakes	(2) Integrated negative control
Final drives	Epicycloidal oil soaked
Maximum speed:	
- 1 speed	4 km/h - 2.4 miles/h
- 2 speed	<b>Standard:</b> 7.4 km/h - 4.6 miles/h <b>SV:</b> 9 km/h - 5.6 miles/h

## WINCH SPECIFICATIONS

### MAIN PUMP

Type	Bosch-Rexroth axial piston variable displacement pump
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### CONTROL

Type	Pilot units for remote control of winch motors Progressive and sensitive operations
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### CONTROLS

Type	Twin pilot operated
Safety	Emergency shut-off
<i>TPS System: twin steering system with two levers to control the tracks independently in order to achieve small and precise movements.</i>	

### TRACK FRAME

Hard track frame with sealed and lubricated chain	
Number of bottom rollers	8+8
Number of carrying rollers	2+2
Gauge	1.95 m - 6.3 ft
Length of track on the ground	2.8 m - 9.2 ft
Standard shoes width	560 mm - 22 in
Ground pressure	0.62 kg/cm <sup>2</sup> - 9 lbs/in <sup>2</sup>
Ground contact area	31,900 cm <sup>2</sup> - 34.3 ft <sup>2</sup>

### ADJUSTABLE COUNTERWEIGHTS

<i>QD-CS: quick-disconnected counterweight system for quick disassembly. (entire counterweight pack.)</i>			
Removable counterweight	- Front pack (6)	1,715 kg - 3,781 lbs	
	- Rear pack (5)	1,435 kg - 3,164 lbs	
Total weight extendable		3,150 kg - 6,945 lbs	

### BOOM

Type	Std. 18 ft / 5.5 m welded box square section
Optional	20 ft / 6.1 m welded box square section
Diameter wire rope	16 mm - 5/8 in
Minimum breaking strength rope	211 KN - 47,415 lb
Part load line	4
Part boom line	4

### VALVES

Type	Bosch load-sensing mobile control block proportional directional valves
Maximum capacity	140 liters/min - 37 U.S. gal/min
Working pressure	250 bar - 3,625 p.s.i.

### FLUID CAPACITIES

Fuel tank	290 liters - 76 U.S. gal
Hydraulic system circuit	175 liters - 45 U.S. gal
Cooling system	22 liters - 5.7 U.S. gal
Engine oil	16 liters - 4.2 U.S. gal
Final drive each	16+16 liters - 4.2+4.2 U.S. gal

### ELECTRIC SYSTEM

Operating voltage	24 V
Maintenance free supplied batteries	2
Capacity (total)	100 Ah
Starter capacity	8 Kw
Alternator	55 A

### HYDRAULIC WINCHES

Type	Hydraulic controlled drums (reversible.) Driven by variable flow hydraulic pump and control valve block in open circuit.	
Maximum pressure	310 bar - 4,641 p.s.i.	
Final drive	Compact hydrostatic drive unit, three-stage planetary gear	
Brakes	Integrated oil bath multiple disk brake, spring applied hydraulic release	

WINCH	Hook	Boom
Drum diameter	324 mm / 13 in	324 mm / 13 in
Flange diameter	430 mm / 17 in	430 mm / 17 in
Drum length	280 mm / 11 in	280 mm / 11 in
Capacity (16 mm - 5/8 in)	52 m / 170 ft	52 m / 170 ft
Wire rope installed	40 m / 131 ft	40 m / 131 ft
Hook speed	0-13 m/min / 0-43 ft/min	

### HYDRAULIC TANK

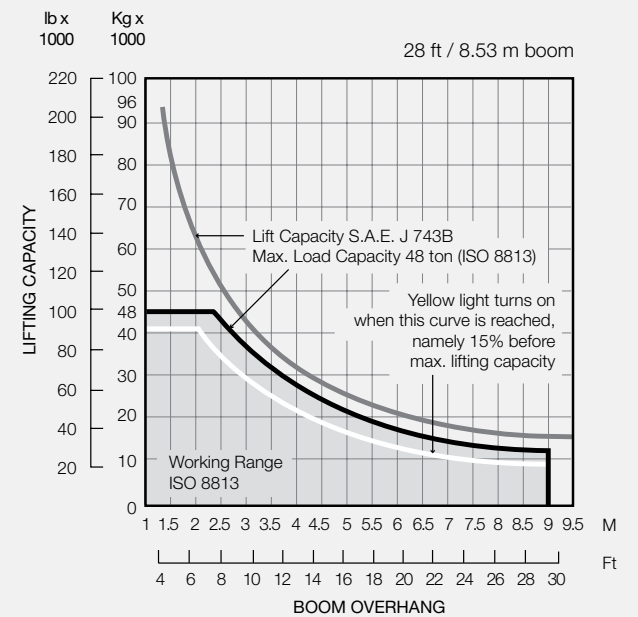
Type	Pressurized type
Max capacity	125 liters - 33 U.S. gal

### FILTER

Type	Donaldson FI0500
Maximum capacity	500 liters/min - 132 U.S. gal/min

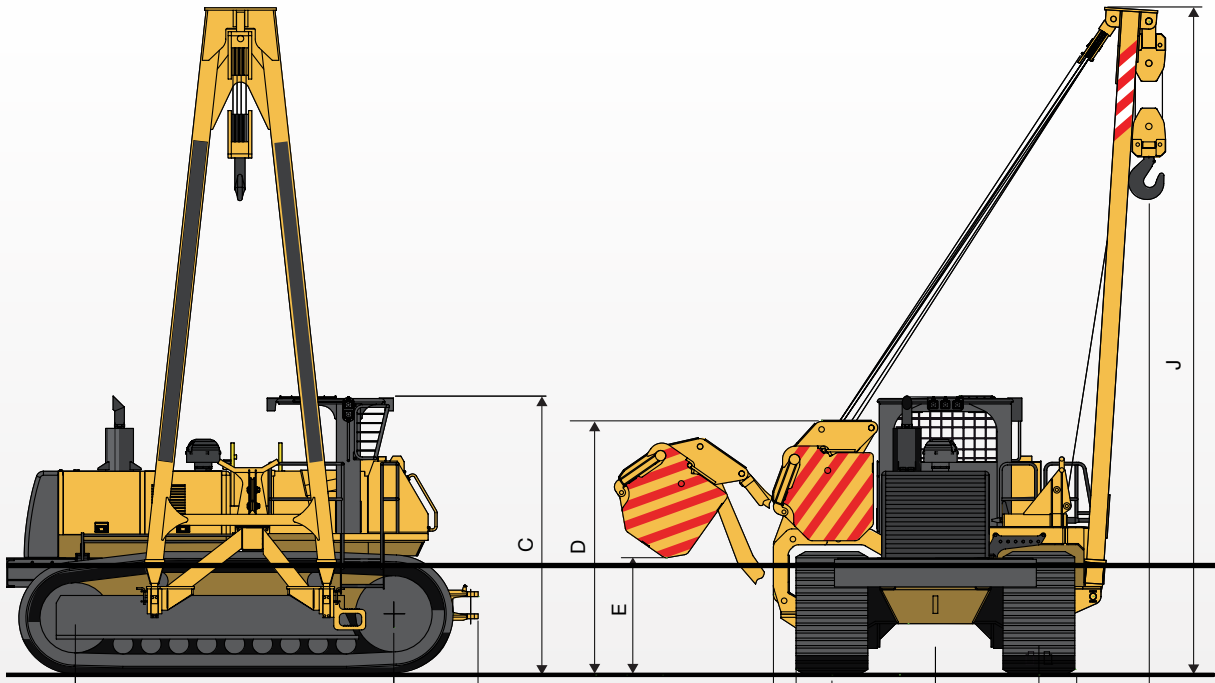


### LIFTING CAPACITY





DIMENSIONS



A Overall length	15.2 ft	4.62 m
B Length of tracks on ground	9.2 ft	2.8 m
C Hitch	18 in	47.3 cm
D Height to top of ROPS	10 ft	3 m
E Height to bottom of counterweight	16 in	41 cm
F Overall width	9.8 ft	3 m
G Width - left frame removed	9.2 ft	2.8 m
H Width - tracks only	8.2 ft	2.5 m
I Gauge	6.4 ft	1.95 m
J Track width	22 in	56 cm
K Clearance	16 in	41 cm
L Height to top of the boom	20 ft	6 m
Operating weight	44,092 lbs	20,000 kg

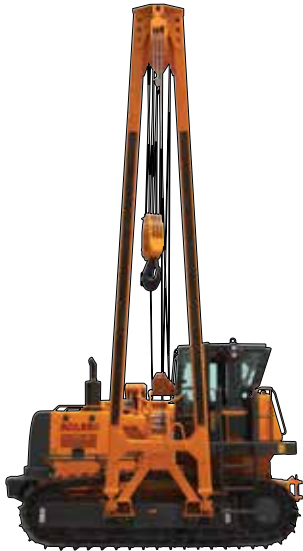
AVAILABLE MODELS



SPX-260  
Lifting capacity: 26-ton



SPX-460  
Lifting capacity: 46-ton



SPX-660  
Lifting capacity: 66-ton



SPX-960 / 960 SV  
Lifting capacity: 96-ton



## ENCLOSED CABIN

The SPX-260 comes standard with a ROPS/FOPS structure to protect the operator. For harsher weather conditions an optional enclosed cabin is also available along with a winterization package, A/C and heater.

## WINCH

SUPERIOR's rear winch is compatible with both the SP/CX and SPX-Series and can be purchased separately.

## FEATURES

- CE approved design
- Planetary gear
- Automatic negative brakes
- Anti-friction bearings

## SPECIFICATIONS

Max line pull	220 KN
Max line speed	0-39 m/min / 0-128 ft/min (Bare drum)
Cable size	19 mm - 3/4 in
Weight	1,200 kg - 2,500 lb
Drum diameter	217 mm - 9 in



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