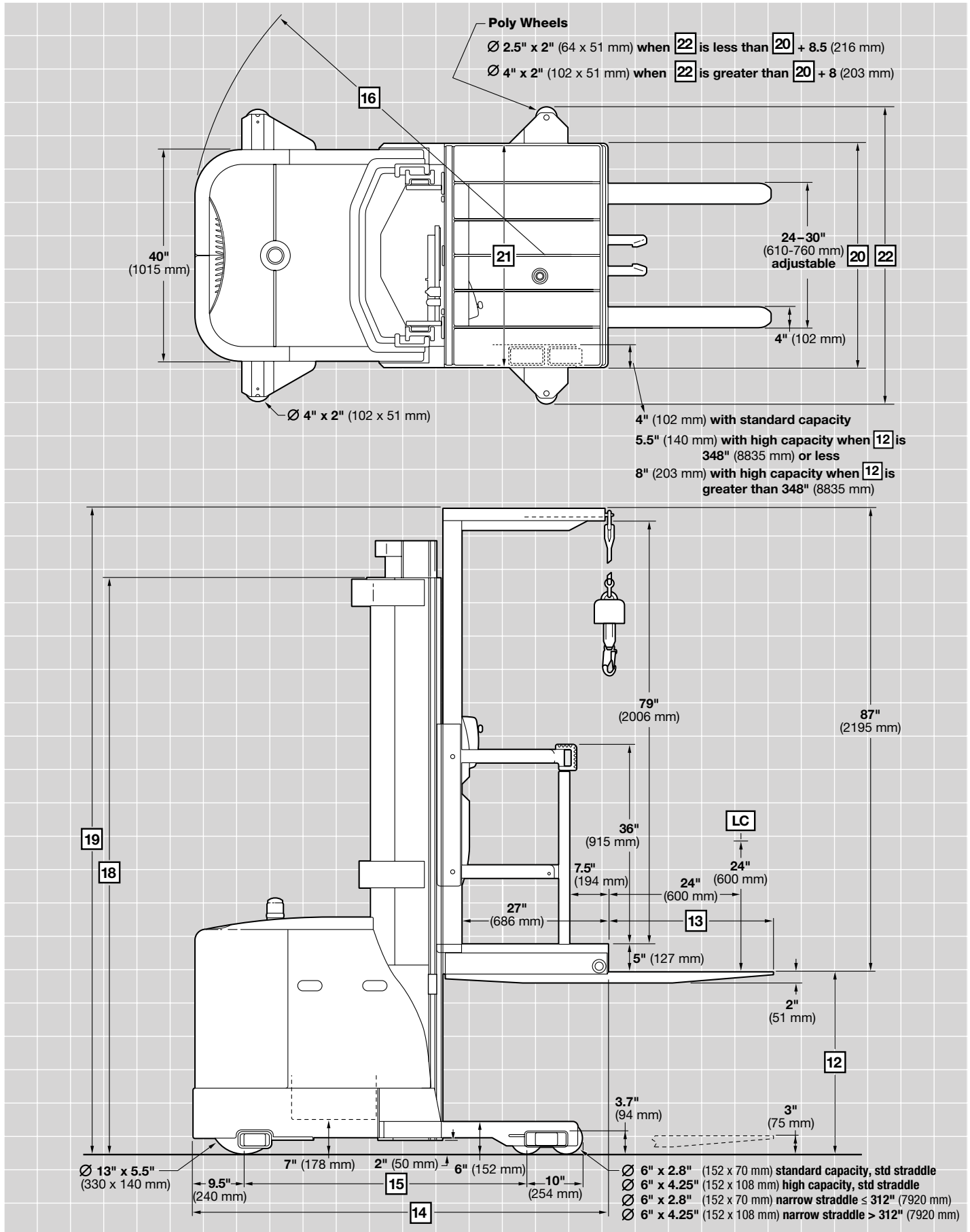


CROWN

SP 3500 SP 4000 SERIES

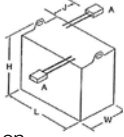
Specifications
Stockpicker





SP 3500 Series

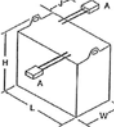
Specifications

			Imperial	Metric
General	1	Manufacturer	Crown Equipment Corporation	
	2	Model	SP 3500-30	
	3	Load Capacity*	lb kg	See Charts
	4	Load Center	Platform face to load CG in mm	24 600
	5	Power	Electric	24 Volts
	6	Operator Type	Stand-up Rider	Stockpicker
	7	Tire Type	Load/Drive	Poly / Poly
Performance	8	Speed Travel	Empty/Loaded mph kmph	See Chart
	9	Speed Lift	TL Empty fpm m/s	45 Std, 80 High Speed 0.225 Std, 0.405 High Speed
			TL Loaded fpm m/s	28 Std, 46 High Speed 0.140 Std, 0.230 High Speed
			TT Empty fpm m/s	40 Std, 71 High Speed 0.200 Std, 0.360 High Speed
			TT Loaded fpm m/s	26 Std, 43 High Speed 0.130 Std, 0.215 High Speed
	10	Speed Lower	TL Empty fpm m/s	40 Low, 80 High 0.200 Low, 0.405 High
			TL Loaded fpm m/s	38 Low, 75 High 0.190 Low, 0.380 High
			TT Empty fpm m/s	40 Low, 80 High 0.200 Low, 0.405 High
TT Loaded fpm m/s			38 Low, 75 High 0.190 Low, 0.380 High	
Dimensions	11	Wheels (x = driven)	Load/Drive	4 / 1x
	12	Lifting Height	in mm	See Charts
	13	Forks	Standard L x W x T in mm	36 x 4 x 2 915 x 102 x 51
			Optional Lengths in mm	30, 39, 42, 45, 48, 54, 60, 72, 84 760, 990, 1070, 1145, 1220, 1370, 1525, 1830, 2135
		Battery Compartment		
	14	Head Length	TL in mm	74.6 1895
			TT in mm	75.6 1920
15	Wheel Base	TL in mm	52 1320	
		TT in mm	51 1300	
16	Turning Radius	TL in mm	69 1755	
		TT in mm	68 1735	
Battery	 <p>-Width is measured on the sides of the battery with lifting hooks</p>	Battery	Type	Lead Acid "AA" Lead Acid "B"
		Min Weight/Max Amp	lb amp kg amp	975 / 660 442 / 660
		Max Battery Size L x W x H	in mm	31.75 x 13.12 x 23.25 806 x 333 x 590
		Connector Location/Length (J)	in	A / 22 A / 20
		Standard Connector		SB 175 Gray SB 350 Red

*Contact factory. Capacity may be subject to derating, depending upon lifting height, load center and fork length.

SP 4000 Series

Specifications

				Imperial		Metric							
General	1	Manufacturer			Crown Equipment Corporation								
	2	Model			SP 4000-30								
	3	Load Capacity*		lb kg	See Charts								
	4	Load Center	Platform face to load CG	in mm	24		600						
	5	Power	Electric		36 Volts								
	6	Operator Type	Stand-up Rider		Stockpicker								
	7	Tire Type	Load/Drive		Poly / Poly								
Performance	8	Speed Travel	Empty/Loaded	mph kmph	See Chart								
	9	Speed Lift	TL	Empty	fpm m/s	100		0.508					
			TL	Loaded	fpm m/s	75		0.381					
			TT	Empty	fpm m/s	100		0.508					
			TT	Loaded	fpm m/s	75		0.381					
	10	Speed Lower	TL	Empty	fpm m/s	80		0.406					
			TL	Loaded	fpm m/s	80		0.406					
			TT	Empty	fpm m/s	80		0.406					
TT			Loaded	fpm m/s	80		0.406						
Dimensions	11	Wheels (x = driven)	Load/Drive		4 / 1x								
	12	Lifting Height		in mm	See Charts								
	13	Forks	Standard	L x W x T	in mm	36 x 4 x 2		915 x 102 x 51					
			Optional Lengths		in mm	30, 39, 42, 45, 48, 54, 60, 72, 84		760, 990, 1070, 1145, 1220, 1370, 1525, 1830, 2135					
		Battery Compartment			B	C		D		E			
	14	Head Length	TL		in mm	74.6	1895	76.9	1953	78.5	1994	81.1	2060
			TT		in mm	75.6	1920	77.9	1979	79.5	2019	82.1	2085
15	Wheel Base	TL		in mm	52	1321	54	1378	56	1419	59	1486	
		TT		in mm	51	1302	53	1359	55	1400	58	1467	
16	Turning Radius	TL		in mm	69	1753	71	1803	73	1854	75.5	1918	
		TT		in mm	68	1727	70	1778	72	1829	74.5	1892	
Battery	 <p>-Width is measured on the sides of the battery with lifting hooks</p>	Battery	Type		Lead Acid "B"	Lead Acid "C"	Lead Acid "D"	Lead Acid "E"					
		Min Weight/Max Amp	lb amp kg amp		1700 / 775 770 / 775	2000 / 930 907 / 930	2280 / 1085 1034 / 1085	2600 / 1240 1179 / 1240					
		Max Battery Size L x W x H	in mm		38.44 x 14.25 x 31 976 x 362 x 787	38.44 x 16.25 x 31 976 x 413 x 787	38.69 x 18.19 x 31 983 x 462 x 787	38.69 x 20.75 x 31 983 x 527 x 787					
		Connector Location/Length (J)	in		A / 20								
		Standard Connector			SB 350 Gray								

*Contact factory. Capacity may be subject to derating, depending upon lifting height, load center and fork length.

SP 3500/4000 Series

Specifications

Standard Straddle – TL Mast

12	Lifting Height	in mm	136	3450	148	3755	172	4365	194	4925	214	5435
	Standard Capacity	lb t	3000	1.3	3000	1.3	3000	1.3	3000	1.3	3000	1.3
	High Capacity	lb t	na	na	na	na	na	na	na	na	na	na
	Free Lift	in mm	3	75	6	155	6	155	6	155	6	155
18	Collapsed Height	in mm	89.5	2270	95	2410	107	2715	119	3020	131	3325
19	Extended Height	in mm	223	5670	235	5975	259	6585	281	7145	301	7650
20	Straddle Width	in mm	42	1065	42	1065	42	1065	42	1065	42	1065
21	Operator Compartment Width	in mm	42	1065	42	1065	42	1065	42	1065	42	1065
22	Aisle Guide Wheel Range †	in mm	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658
	Truck Weight Without Battery	lb kg	5130	2332	5189	2358	5319	2418	5607	2548	5737	2608

Standard Straddle – TT Mast

12	Lifting Height	in mm	195	4950	210	5330	240	6095	276	7010		
	Standard Capacity	lb t	3000	1.3	3000	1.3	3000	1.3	2000	0.9		
	High Capacity †††	lb t	na	na	na	na	na	na	2500	1.1		
	Free Lift	in mm	3	75	8	215	20	520	32	825		
18	Collapsed Height	in mm	89.5	2270	95	2410	107	2715	119	3025		
19	Extended Height	in mm	283	7175	298	7555	328	8320	364	9230		
20	Straddle Width	in mm	42	1065	42	1065	42††	1065	48	1220		
21	Operator Compartment Width	in mm	42	1065	42	1065	42	1065	48	1220		
22	Aisle Guide Wheel Range †	in mm	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658	45.50 to 65.25	1156 to 1658	48.75 to 71.25	1240 to 1810		
	Truck Weight Without Battery	lb kg	5704	2592	5789	2631	5975	2716	6453	2933		

Standard Straddle – TT Mast

12	Lifting Height	in mm	294	7465	312	7920	330	8380	348	8835	366	9295
	Standard Capacity	lb t	1750	0.7	1500	0.6	na	na	na	na	na	na
	High Capacity †††	lb t	2350	1.1	2200	1.0	2050	0.9	1900	0.9	1750	0.7
	Free Lift	in mm	38	980	44	1130	56	1435	62	1590	68	1740
18	Collapsed Height	in mm	125	3175	131	3325	143	3630	149	3780	155	3935
19	Extended Height	in mm	382	9690	400	10145	418	10605	436	11060	454	11520
20	Straddle Width	in mm	54	1370	54	1370	56	1420	60	1525	60	1525
21	Operator Compartment Width	in mm	54	1370	54	1370	54	1370	60	1525	60	1525
22	Aisle Guide Wheel Range †	in mm	54.75 to 77.25	1390 to 1962	54.75 to 77.25	1390 to 1962	56.75 to 79.25	1440 to 2013	60.75 to 83.25	1543 to 2115	60.75 to 83.25	1543 to 2115
	Truck Weight Without Battery	lb kg	6636	3016	6728	3058	6924	3147	7094	3224	7524	3420

Narrow Straddle – TT Mast ††††

12	Lifting Height	in mm	294	7465	312	7920	330	8380	348	8835	366	9295
	Standard Capacity	lb t	1200	0.5	1000	0.4	1000	0.4	900	0.4	900	0.4
	Free Lift	in mm	38	980	44	1130	56	1435	62	1590	68	1740
18	Collapsed Height	in mm	125	3175	131	3325	143	3630	149	3780	155	3935
19	Extended Height	in mm	382	9690	400	10145	418	10605	436	11060	454	11520
20	Straddle Width	in mm	48	1220	48	1220	52	1320	56	1420	56	1420
21	Operator Compartment Width	in mm	48	1220	48	1220	48	1220	54	1370	54	1370
22	Aisle Guide Wheel Range †	in mm	48.75 to 71.25	1240 to 1810	48.75 to 71.25	1240 to 1810	48.75 to 71.25	1240 to 1810	56.75 to 79.25	1440 to 2013	56.75 to 79.25	1440 to 2013
	Truck Weight Without Battery	lb kg	6636	3016	6728	3058	6924	3147	7424	3367	8014	3635

† In 0.25" (6 mm) increments

†† 48" (1220 mm) straddle width on "AA" battery only

††† 36V is high capacity when lift height is greater than 240" (6095 mm) unless narrow straddle is selected

†††† 3/8" (10 mm) skid bar clearance (LH 294" to 330" [7465 to 8380 mm], narrow straddle)
Extended skid bars added (LH > 330" [8380 mm], narrow straddle)

SP 3500/4000 Series

Specifications

Lift Height (inches/ mm)	Steered Wheel < 10° ⁽¹⁾		
	Power Unit First (PUF) ⁽²⁾ Travel Speed (mph/kmph) Empty/Loaded		
	Standard Capacity "AA" Battery	Standard Capacity ⁽³⁾	High Capacity
0 - 24	6.5	7.5	7.5
0 - 610	10.4	12.0	12.0
24 - 64	6.5 - 5.5	7.5 - 6.0	7.5 - 6.5
610 - 1625	10.4 - 8.8	12.0 - 9.6	12.0 - 10.4
64 - 120	5.5 - 3.3	6.0 - 3.8	6.5 - 4.5
1625 - 3048	8.8 - 5.3	9.6 - 6.1	10.4 - 7.2
120 - 152	3.3 - 2.1	3.8 - 2.7	4.5 - 3.4
3048 - 3861	5.3 - 3.3	6.1 - 4.3	7.2 - 5.4
152 - 175	2.1 - 1.2	2.7 - 2.0	3.4 - 2.6
3861 - 4445	3.3 - 1.9	4.3 - 3.2	5.4 - 4.1
175 - 192	1.2	2.0 - 1.5	2.6 - 2.2
4445 - 4877	1.9	3.2 - 2.4	4.1 - 3.5
192 - 216	1.2	1.5	2.2 - 1.5
4877 - 5486	1.9	2.4	3.5 - 2.4
216 - max	1.2	1.5	1.5
5486 - max	1.9	2.4	2.4

⁽¹⁾ Top travel speed is reduced to 80% at a 10° steering angle, beyond 10° travel speeds gradually reduce down to 50% of top travel speed. Steering angle is automatically limited to within 10° straight travel as indicated below:

- Standard Capacity "AA" Battery above 176" (4470 mm)
- Standard Capacity above 192" (4877 mm)
- High Capacity above 216" (5486 mm)

⁽²⁾ From 0-60 inches (0-152 mm), travel speeds in the Forks First (FF) direction of travel are approximately 0.5 mph (0.8 km/h) less than travel speeds in the Power Unit First (PUF) direction.

⁽³⁾ Standard straddle and narrow straddle models

SP 3500/4000 Series

Technical Information

Standard Equipment

1. Crown's Access 1 2 3[®] Comprehensive System Control
2. Crown's AC traction control system
3. 24-volt or 36-volt electrical system
4. Electronic steering
5. Linear Height Speed Control
6. Variable Lift/Lower (36V only)
7. Regenerative Lower (36V only)
8. Programmable lift/lower cut-outs
9. Intelligent Braking with low-profile brake pedal

10. Crown Display
 - Battery discharge indicator with lift interrupt
 - Hour meters/travel distance/stop watch
 - PIN code access capable
 - Access 1 2 3 diagnostics
 - P1, P2, P3 Performance
 - Standard steer tire direction indicator (non wire-guided trucks)
 - Enhanced steer tire direction indicator (wire-guided trucks)
11. Soft urethane twist grip with "cam grip"
12. 10° angled steer wheel with soft feel spinner
13. Storage compartment
14. Premium platform cushion
15. Clear visibility platform window

16. Wire mesh screen
17. Key switch
18. Horn
19. LED flashing light
20. Hinged side gates with power disconnect
21. 175 amp battery connector for "AA" battery box
22. 350 amp for "B", "C", "D", and "E" battery boxes
23. 2" (51 mm) diameter battery compartment rollers
24. Top battery access for service
25. Removable steel battery side covers
26. Adjustable battery retainer
27. Hinged, lift off steel power unit doors

28. Corrosion conditioning
29. Emergency power cut-out
30. Retractable tether and body harness
31. Pallet clamp
32. InfoPoint[®] Quick Reference Guide and Maps
33. Color-coded wiring
34. 6" (152 mm) diameter tandem load wheels

Optional Equipment

1. High-speed travel
2. High-speed lift
3. High capacity
4. Crown wire guidance (broadband technology) operates on all frequencies ranging from 5.2 through 10 kHz without changing components
5. End of Aisle Control System (wire or rail guidance required)
6. Aisle guide wheels for rail guidance
7. Lift motor brush wear and overtemp indicator (24V only)
8. Battery retainer interlock switch
9. Electric pallet clamp
10. Work lights, dome light and two-speed fan
11. Spotlights
12. Flashing light, amber
13. Programmable lift/lower cutouts with over-rides.
14. Zone select key switch
15. 48" (1220 mm), 54" (1370 mm), and 60" (1525 mm) wide operator platforms
16. Freezer conditioning (Includes corrosion conditioning, ribbed floor mat, and wire mesh windshield)
17. UL EE Rating
18. Glass windshield
19. Load wheel and drive tire compounds
20. 30" (762 mm) lanyard boom
21. InfoLink® Ready System
22. InfoLink for Windows® Ready System
23. Positive / negative accessory cable
24. Special paint
25. Work Assist® Accessories
 - Clip pad and hook
 - Plate
 - Pocket
26. Fire extinguisher

Operator Platform

The operator area is designed for maximum visibility and stability for increased operator confidence and comfort.

The operator platform features a large window (1088 sq in) (701930 mm²) for excellent visibility. A Crown-designed clear-visibility mast affords the platform window one forward and two peripheral windows for maximum visibility, even when the platform is lowered.

The clear-visibility mast, with full free lift, extends the platform window above the mast channels for unobstructed visibility when raised.

A low-profile power unit, low placement of the lower cross brace and an outer C-channel rail assembly also contribute to excellent visibility.

A soft urethane twist grip is solidly mounted to the truck console to provide excellent stability for the operator during travel, plugging and braking. Controls for lift/lower, horn and emergency disconnect are conveniently located for efficient operation and minimal operator fatigue. The steering wheel is angled at 10° and recessed to maximize the work area and reduce steer effort. The steering wheel and spinner knob are covered with soft urethane to reduce grip force and insulate against vibration. Control location keeps the operator's posture neutral at all times.

The platform cushion, made of a microcellular composition, absorbs shock and vibration. The brake pedal has a low-profile design and when engaged is flush with the platform cushion for maximum comfort. Heavy-duty side gates, with two horizontal and one vertical support rails, communicate security to the operator. For additional safety, cut-out switches disengage truck operation when side gates are raised.

Two work lights, two dome lights and a two-speed fan are optional. "Power-on" key prevents unauthorized operation of the truck. The Access 1 2 3® Display Panel provides concise, clear feedback for the operator during truck operation.

Crown's Access 1 2 3®...

The Comprehensive Access 1 2 3 System Control is a modular based communications and control system. It monitors all on-board sensors, makes decisions based on the sensor readings, and subsequently, controls all system movements safely and smoothly. All five modules are in constant communications with each other via a CAN (Control Area Network) bus so that real information is accessible to the system at all times.

- Interactive Display Module
- Traction Control Module
- Vehicle Control Module
- Steering Control Module
- Guidance Control Module

Crown Drive System

Crown has applied the latest generation AC drive system, enhanced with Access 1 2 3 technology. A Crown-manufactured drive unit uses spiral bevel and helical gears from motor to drive wheel axle.

Fixed, mounted drive motor does not rotate minimizing wear on electrical cables. Drive tire changing is simplified with this drive unit.

Crown's AC Drive system dramatically improves travel speeds, acceleration and deceleration, thus increasing productivity.

The standard linear speed control provides smooth travel speed transition as lift heights change and increases productivity.

Travel System

Truck performance specifications (maximum travel speed, coast, plugging, acceleration, travel speed at height, and low speed lowering) are adjustable using Access 1 2 3. This enables customizing truck performance to meet specific application or operator requirements.

Crown's InfoPoint system offers evolutionary refinement for service simplicity. The InfoPoint Quick Reference Guide, on-truck component maps and information nuggets located throughout the truck allow technicians to troubleshoot without schematics, wiring diagrams, or service manuals for more than 95 percent of repairs.

The InfoPoint Quick Reference Guide provides code definition and overall component ID so the technician knows what it is, where it is, and what it does (Three W's). InfoPoint ensures faster, simpler, and higher quality service.

Intelligent Steering

Standard on the SP 3500/SP 4000 Series is electronic steering that is microprocessor based.

Crown's intelligent steering feature slows the truck automatically when the steer wheel is turned beyond 10°. Access 1 2 3 monitors the height of the operator platform, truck speed and steer wheel position.

Steering wheel rotation provides smooth, operator feedback. Steer effort is minimal, lock to lock revolutions is 4.5 turns. Drive wheel rotates a full 180° for maximum maneuverability. Auto centering drive tire for trucks equipped with rail guidance. Steering is connected to the Control System for full diagnostics and operator interface.

SP 3500/4000 Series

Technical Information

Intelligent Braking

Crown's patented Intelligent Braking combines motor braking with optimum amounts of friction braking (three varying levels of force). The appropriate level of braking is applied dependent upon platform height, direction of travel, and truck weight. Braking force is automatically reduced as height increases and speed decreases. Optimum braking for the right elevation gives operators more confidence and better control, while eliminating abrupt stops and reducing platform sway. Brake lining life can be expected to last up to twice as long before replacement is necessary.

Braking can also be accomplished by proportional plugging, which permits the operator to control the rate of deceleration when extended stopping distance is preferred.

Simplified Hydraulics

Heavy-duty series wound pump motors and gear pumps are assembled into an integral unit. Variable lift and lower is standard on SP 4000. High speed lift is optional on SP 3500.

Two-speed lowering (high/low) with soft start is standard on SP 3500 models. Low speed lowering is adjustable with the use of the Access 1 2 3 display. Soft-start lowering feature reduces the harshness at the beginning

and end of the lowering cycle. The softer start is accomplished by controlling how quickly the proportional valve is opened or closed. Valve actuation is controlled by a driver in the steering control module.

Maximum lowering speed is regulated by a pressure compensating flow control valve. Velocity fuses are used in all cylinders to stop lowering should lowering speed exceed a preset value due to a line rupture. A hydraulic accumulator is used to cushion raise and lower functions on the SP 3500. Oil reservoir is designed with a 100 mesh screen at the fill location, a suction strainer, spin-on type 10 micron return line filter and a magnetic drain plug.

The Crown Mast Assembly

High visibility two- and three-stage masts feature nested rail design with lift cylinders positioned behind mast rails. Three-stage mast has a low center position cylinder for free lift. Routing of hosing and cables optimizes visibility through mast. Built-in sensors detect chain slack and shut down primary lower function. Exclusive spring-loaded staging bumpers virtually eliminate platform impact as platform stages. Negative rail drop allows shimming of mast rollers without major disassembly.

Stronger Low Profile Power Unit

Power unit is fabricated from heavy-gauge steel. Lower skirt is 0.75" (19 mm) steel that runs 9" (228 mm) high for component protection. Rugged steel doors suspended on heavy-duty pin hinges cover power unit componentry. Doors swing wide for open access. Doors can also be lifted off for unrestricted service access. Door bolts have exclusive convex design that mates with concave door holes for fast reinstallation of door bolts. Battery side covers are all steel. An optional battery retainer interlock switch is available. Top battery access is available by lifting cover. Cover has integral support post.

Wheels and Tires

Polyurethane drive tire, 13" (330 mm) diameter x 5.5" (140 mm) wide x 8" (203 mm) hub diameter. Tandem load wheels are 6" (152 mm) diameter polyurethane x 2.8" (70 mm) wide (4.25" (108 mm) wide for high capacity trucks). Optional polyurethane aisle guide wheels are 2" (51 mm) wide with a 4" (102 mm) or 2.5" (64 mm) diameter.

Forks

2" (51 mm) thick x 4" (102 mm) wide forged steel. Fork spread (adjustable) 24" (610 mm) to 30" (760 mm). Standard length is 36" (915mm). Optional lengths available.

Pallet Clamp

Standard equipment includes a foot-applied, hand-released pallet clamp designed for use with pallets having center stringers.

Warning Device Options

Audible or Visual Alerts

Safety considerations and dangers associated with audible travel alarms and lights include:

- Multiple alarms and/or lights can cause confusion.
- Workers ignore the alarms and/or lights after day-in and day-out exposure.
- Operator may transfer the responsibility for "looking out" to the pedestrians.
- Annoys operators and pedestrians.

Other Options Available

Contact factory for additional options.

Dimensions and performance data given may vary due to manufacturing tolerances. Performance is based on an average size vehicle and is affected by weight, condition of truck, how it is equipped and the conditions of the operating area. Crown products and specifications are subject to change without notice.



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You can count on Crown to build lift trucks designed for safe operation, but that's only part of the safety equation. Crown encourages safe operating practices through ongoing operator training, safety-focused supervision, maintenance and a safe working environment. Go to crown.com and view our safety section to learn more.

Because Crown is continually improving its products, specifications are subject to change without notice.

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