

**CROWN**

**Specifications**

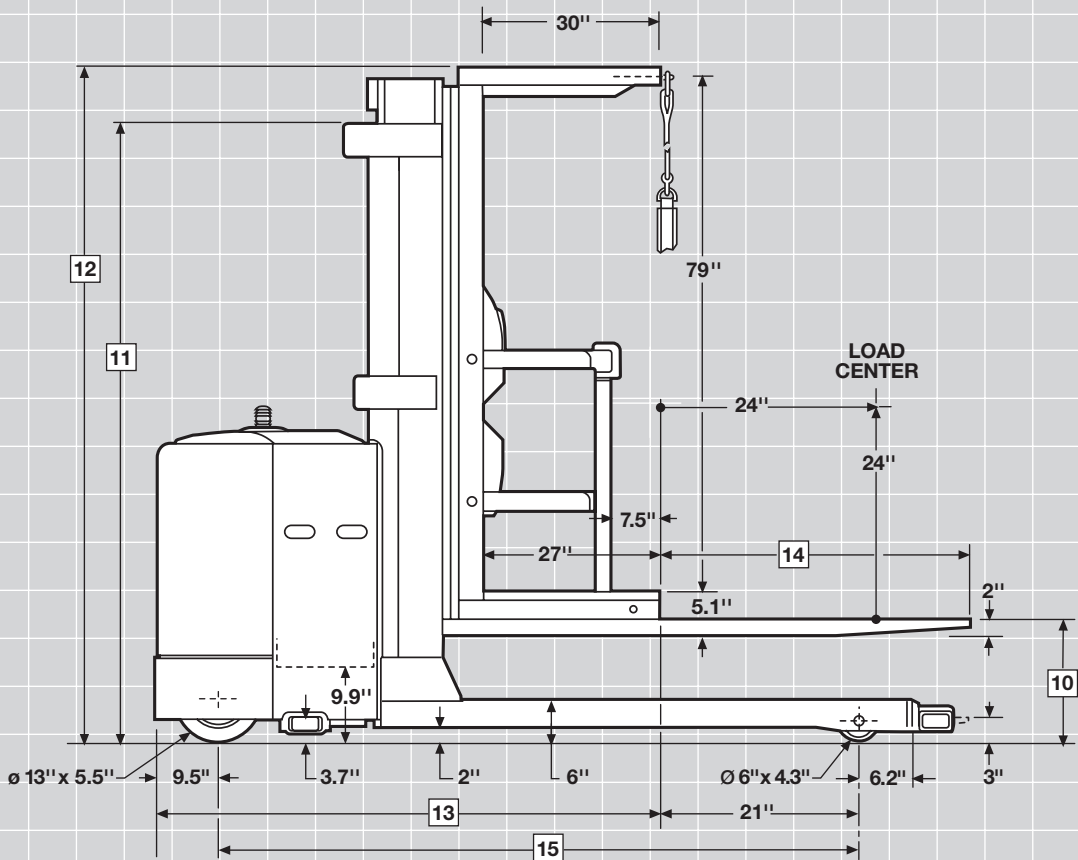
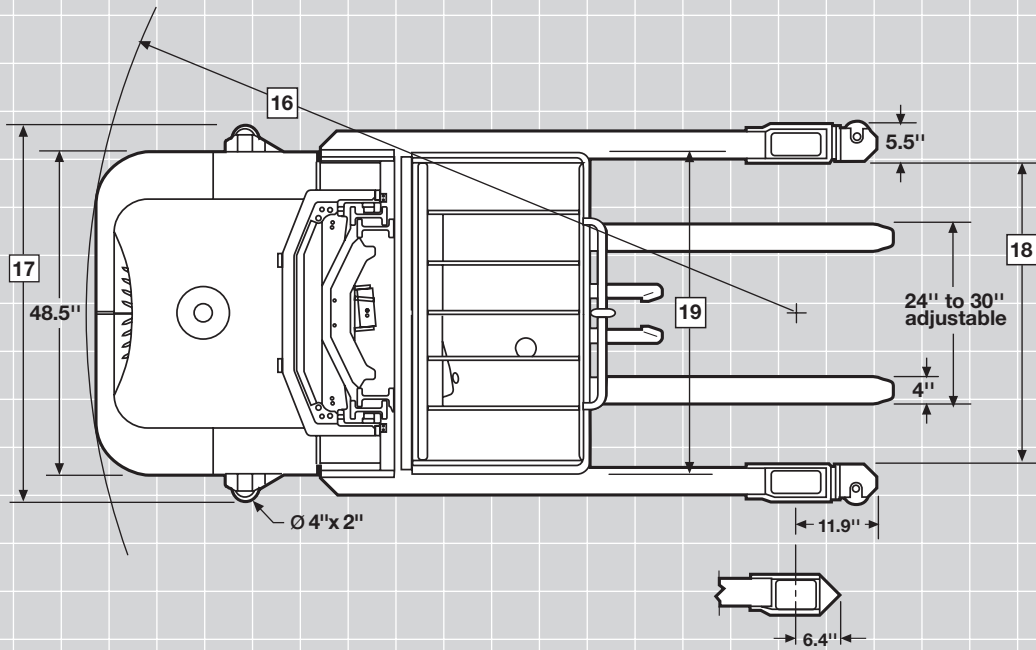
**SP 3470F Series**

Stockpicker

**SP 3400**

**Four-Point  
Series**





<b>General Information</b>	1	<b>Manufacturer</b>		<b>Crown Equipment Corporation</b>										
	2	<b>Model</b>		SP 3470F										
	3	<b>Load Capacity*</b>	24" Load Center to 276"	lb	3000									
	4	<b>Load Center</b>	Platform face to load CG	in	24									
	5	<b>Power</b>	Electric	Volts	24									
	6	<b>Operator Type</b>	Stand-up Rider		Stockpicker									
	7	<b>Tire Type</b>	Load/Drive/Caster		Poly/Poly/Poly									
	8	<b>Wheels</b>	Load/Drive/Caster		2/1/1									
<b>Dimensions</b>		<b>Mast Type</b>	Triple-telescopic		TT									
	10	<b>Lift Height</b>	(LH)	in	210	240	276	294	312	330	348	366		
		<b>Free Lift</b>	With LBR	in	8	20	32	38	44	56	62	68		
	11	<b>Collapsed Height</b>		in	95	107	119	125	131	143	149	155		
	12	<b>Extended Height</b>	(EH)	in	298	328	364	382	400	418	436	454		
		<b>Truck Weight</b>	Without Battery	lb	6295	6490	6887	7008	7101	7231	7324	7417		
	13	<b>Head Length</b>		in	75.6									
	14	<b>Forks</b>	Standard L x W x T	in	36 x 4 x 2									
			Optional Lengths	in	30, 39, 42, 45, 48, 54, 60, 72, 84									
	15	<b>Wheelbase</b>		in	87.5									
16	<b>Turning Radius</b>		in	98.5										
17	<b>Aisle Guide Wheel Range</b>		in	49.5" to 77.5" (11.5" to 15.5" Greater than inside straddle in .25" increments)										
18	<b>Straddle Width</b>	Inside Straddle	in	38 to 63 in 1" increments										
		Outside Straddle	in	Add 11"										
19	<b>Operator Compartment Width</b>		in	48 Standard; 42, 54, 60 and 64 Optional										
<b>Performance</b>	20	<b>Speed Travel</b>	Empty/Loaded	mph	See Chart									
	21	<b>Speed Lift</b>	Empty/Loaded	fpm	40/26 Low, 71/43 High									
	22	<b>Speed Lower</b>	Empty/Loaded	fpm	40/38 Low, 80/75 High									
	23	<b>Battery</b>	Type		Lead Acid									
			Min Weight/Max Amp		1520/1085									
		Max Battery Size		14.25 x 36.25 x 31 High										
24	<b>Traction Motor</b>	60 Min Rating	hp	4.0										

\* Contact factory. Capacity depends on maximum lift height, straddle width, load center and fork length.

<b>Lift Height (inches)</b>	<b>Steered Wheel &lt; 10° <sup>(1)</sup></b>
	<b>Guided <sup>(2)</sup></b>
	<b>Power Unit First (PUF) <sup>(3)</sup></b>
	<b>Travel Speed (mph) Empty/Loaded</b>
	<b>Linear SP 3470F</b>
0-24	7.0
25-152	7.0 - 4.0
153-200	4.0 - 3.0
201-304	3.0 - 1.5
305-366	1.5

<sup>(1)</sup> 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 when lift is above 200".

<sup>(2)</sup> Non-guided travel speeds between 24" and 304" are reduced.

<sup>(3)</sup> Guided travel speeds in the Forks First (FF) direction are less than Power Unit First (PUF) up to 152".

**Standard Equipment**

1. 24-volt electrical system
2. Crown's Access™ traction control module
3. Separately excited motor technology
4. Motor Monitoring System (MMS). MMS includes motor brush wear indicators and motor temperature indicators.
5. Electronic steering
6. Two-speed raise/lower with soft start and stop lower
7. Intelligent Braking System (IBS) with low-profile brake pedal
8. Linear speed control
9. Start up and run time diagnostics
10. Programmable performance features
11. Information Display Panel in operator platform
12. Elapsed time counter
13. Battery discharge indicator with lift interrupt
14. Steer tire direction indicator
15. Hour meters—hours recorded for total operating, traction, lift, lower and steer
16. Soft urethane twist grip with “cam grip”
17. 10° angled steer wheel with soft feel spinner
18. Storage compartment
19. Premium platform cushion
20. Clear visibility platform window
21. Clear visibility mast design
22. Key switch
23. Horn
24. Strobe light
25. Hinged side gates with power disconnect
26. 14.25" battery compartment
27. 350 amp battery connector
28. 2" diameter battery compartment rollers
29. Top battery access for service
30. Removable steel battery side covers
31. Adjustable battery retainer
32. Hinged, lift off steel power unit doors
33. Emergency power cut-out
34. Operator belt and lanyard
35. Pallet clamp
36. InfoPoint® Quick Reference Guide and Maps

27. Color-coded wiring
28. 6" diameter load wheels
29. Four-point foot print

**Optional Equipment**

1. Crown wire guidance (broadband technology) operates on all frequencies ranging from 5.2 through 10 Khz without changing components.
2. Aisle guide wheels for rail guidance
3. Battery retainer interlock switch
4. Work lights, dome light and two-speed fan
5. Spotlights
6. Flashing amber strobe light
7. Fork raise cutout with or without override and/or lower cutout with override
8. Zone select key switch
9. 42", 54", 60" and 64" wide operator platforms
10. Corrosion conditioning
11. Freezer conditioning (Includes corrosion conditioning, ribbed floor mat and wire mesh windshield)
12. Wire mesh screen (Standard with freezer conditioning)
13. Retractable tether
14. Load wheel and drive tire compounds
15. 30" lanyard boom
16. Special paint
17. Work Assist™ Accessories
  - Clip pad and hook
  - Plate
  - Pocket
18. Fire extinguisher

**Human Factor**

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) 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; start position initializes truck “self-test”. The Information Display Panel provides concise, clear feedback for the operator during truck operation.

**Responsibly Innovative Electronics**

Environmentally hardened heavy-duty 24-volt electrical system. The system utilizes an intelligent network of modules to provide real time truck control, display, diagnostics and calibration. A distribution panel provides a central location for troubleshooting, reduces wiring requirements, and enables future options to be added easily. The control system can be accessed by the Service Terminal to provide calibration of truck parameters and optional features set-up. The control system is also used to extract service diagnostic and management data. The link-up port is conveniently located on the platform and is easily accessible without removal of covers for connection.

The Crown Program Analysis Cartridge (PAC) works in conjunction with the Service Terminal and ensures users simple, fast program upgrade of systems.

**Information Display Panel**

The Information Display Panel travels with the operator at all times. Features include audible and visual prompts for the operator, steer wheel direction indicator, battery fuel gauge with lift interrupt, wire guidance status lights, hour meters for all motors, brush wear indicators and motor temperature indicators, elapsed time counter, optional battery retainer interlock light, and optional fork height “zone select” control.

The Service Terminal also provides extensive service history information as well as “real time” electrical system diagnostics and fault isolation information for servicing.

**Enhanced and Interchangeable Drive Unit**

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 new drive unit. Crown Turret Trucks and Reach Trucks also use this drive unit.

**Four-wheel Configuration**

A drive tire, caster wheel, and two load wheels provide a four-point foot print. Caster is adjustable to compensate for tire wear.

**Travel System**

Crown's exclusive Access traction control module dramatically improves travel speeds, acceleration and deceleration, thus increasing productivity. The network of modules knows the position of side gates, the speed and direction of travel, the position of the steer wheel, the truck weight and the height of the operator platform. The traction control module uses this information to control acceleration, braking, plugging and maximum speed.

The Crown traction system provides high available torque utilizing a Crown manufactured separately excited motor and maintains constant performance levels under varying loads, conditions and battery state of charge. Speeds remain the same empty or loaded. Separately excited motor technology eliminates forward, reverse and bypass contactors achieving higher levels of reliability. Regenerative motor braking helps save energy, increases motor brush life and decreases motor temperature.

### Travel System—continued

Linear speed control provides smooth travel speed transition as lift heights change and increases productivity.

Truck performance specifications (maximum travel speed, coast, plugging, acceleration, travel speed at height, and low speed lowering) are adjustable using the Crown Service Terminal. 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 where it is, what it is and what it does (Three W's). InfoPoint ensures faster, simpler, and higher quality service.

### Intelligent Steering

Standard on the SP 3400 Four-Point 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°. Using the intelligence of Crown's Access traction control module, the truck 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. Crown PAC also interfaces with steering system for fast upgrade.

### Intelligent Braking System (IBS)

Crown's patented Intelligent Braking System 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.

Brake system eliminates hydraulic lines running in mast to control braking. 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. Two-speed lift (high/low) is standard. Crown-manufactured solenoid type manifolds with built-in checks and relief valves.

Two-speed lowering (high/low) with soft start is standard. Low speed lowering is adjustable with the use of the Service Terminal. 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 networks traction 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. Manual lowering control on manifold block allows lowering of platform from ground level. 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 three-stage mast features nested rail design with lift cylinders positioned behind mast rails. Mast has a low center position cylinder for free lift. Improved mast cable life due to larger, 5" diameter pulleys. 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 .75" steel that runs 9" 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" diameter x 5.5" wide x 8" hub diameter. Load wheels are 6" diameter polyurethane x 4.25" wide. Optional polyurethane aisle guide wheels are 2" wide with a 4" or 2.5" diameter. Casters have dual 3" wide x 10" diameter polyurethane load wheels.

### Forks

Standard fork is 2" thick x 4" wide x 36" long forged steel, with optional lengths available. A 3" thick x 6" wide x 84" long box section fork is optional. Fork spread (adjustable) 24" to 30".

### Pallet Clamp

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

### Safety Shield

Safety glass to protect operator from chains and moving parts while in his normal operating position.

### Audible Travel Alarm Option

Safety considerations and dangers associated with audible travel alarms include:

- Multiple alarms can cause confusion.
- Workers ignore the alarms 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 your local Crown dealer.

*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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