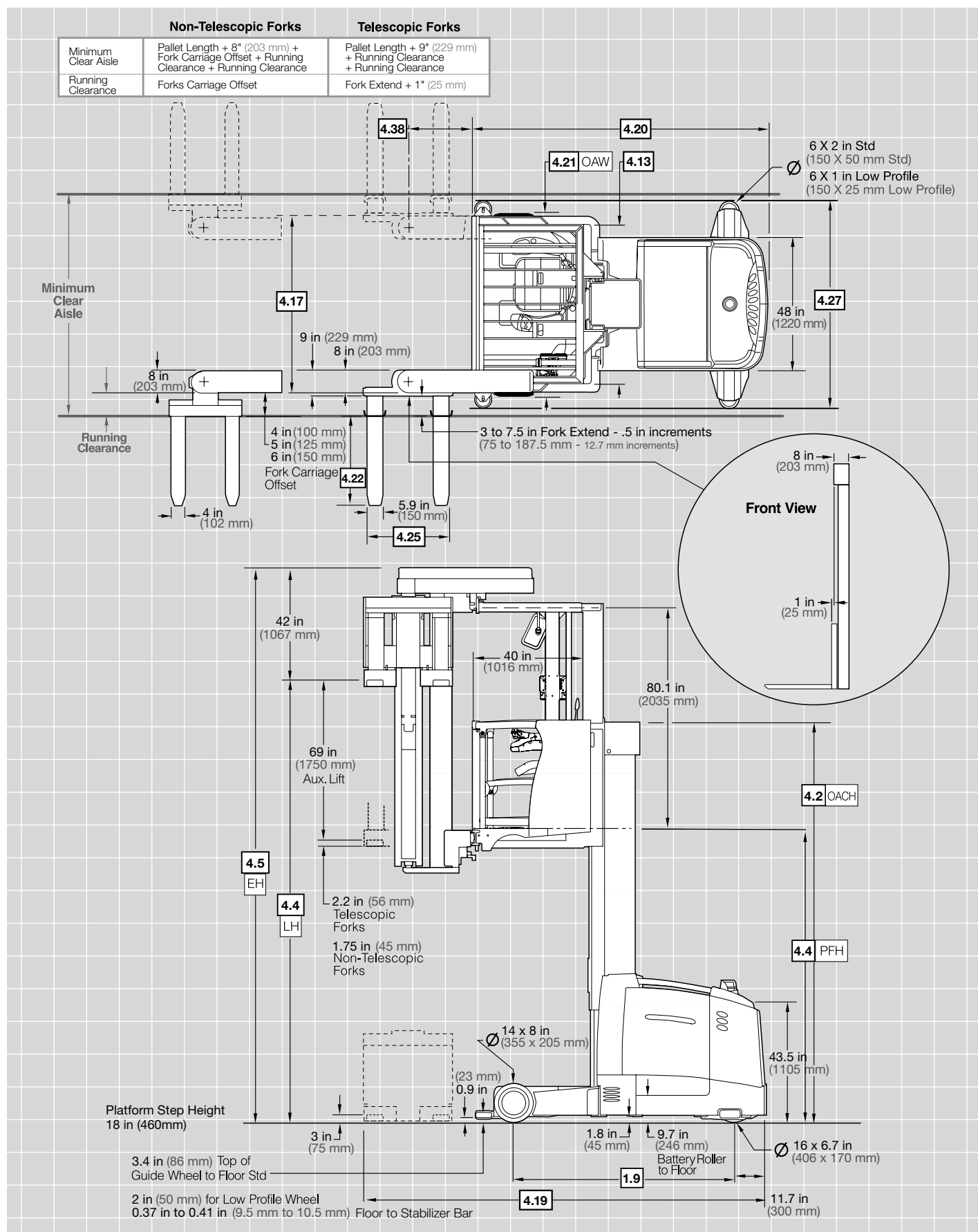


CROWN

TSP 1000 SERIES

Specifications
Turret Stockpicker





TSP 1000 Series

Specifications

TN/TF Mast			Imperial	Metric
General Information	1.1	Manufacturer	Crown Equipment Corporation	
	1.2	Model	TSP 1000-33	
	1.3	Power Source	48 Volt	
	1.4	Operator Type	Turret Stockpicker	
	1.5	Rated Capacity*	24" (610 mm) Load Center	lb kg
	1.6	Load Center	3,300	1500
	1.7	Load Distance	24	600
	1.8	Load Distance	15	386
	1.9	Wheel Base	76.8	1950
Tires/Wheels/ Chassis		"AA" Battery Compartment	in mm	80.1
		"A" Battery Compartment	in mm	83.5
		"B" Battery Compartment	in mm	89.2
		"C" Battery Compartment	in mm	2265
	2.1	Service Weight	Less Battery	lb kg
	3.1	Tires	Load / Drive	Poly
	3.2	Tire Size Front (Load Wheels)	in mm	14 x 8
	3.3	Tire Size Rear (Drive Tire)	in mm	16 x 6.7
	3.5	Wheels	Load / Drive	2 / 1
Dimensions	4.2	Overall Collapsed Height	(OACH)	See Mast Chart
	4.3	Free Lift		
	4.4	Lift Height	(LH) (PFH)	
	4.5	Mast Extended Height	(EH)	
	4.8	Stand Height (Lowered)	in mm	18-95
	4.13	Cabin Width	in mm	48, 52, 58
	4.15	Fork Height (Lowered)	in mm	3
	4.17	Traverse Frame Width	48" (1220 mm) Platform	in mm
			52" (1320 mm) Platform	in mm
			58" (1475 mm) Platform	in mm
			64" (1625 mm) Platform ††	in mm
	4.19	Overall Length	"AA" Battery Compartment	in mm
		(With 23", 585 mm Load Handler)	"A" Battery Compartment	in mm
			"B" Battery Compartment	in mm
			"C" Battery Compartment	in mm
	4.20	Head Length	"AA" Battery Compartment	in mm
			"A" Battery Compartment	in mm
			"B" Battery Compartment	in mm
			"C" Battery Compartment	in mm
	4.21	Overall Width (Front/Rear)	(OAW) 1" (25.4 mm) increments	in mm
	4.21a	Overall Width (Operator Platform)	in mm	48, 52, 58, 64
	4.22	Fork Dimensions	Telescopic L x W x T	in mm
			Non-Telescopic L x W x T	in mm
Performance Data	4.25	Outside Fork Spread	See Outside Fork Spread Chart	
	4.27	Width Across Guide Roller	.25" (6.35 mm) increments	1.25 – 8.75 (32 – 222) greater than OAW, Item 4.21
	4.32	Ground Clearance	in mm	1.8
	4.38	Load Handler Length	Standard	in mm
			Optional	in mm
	5.1	Travel Speed	mph km/h	See Travel Speed Chart
	5.2	Lift Speed	Main Mast Empty / Loaded	fpm m/s
			Auxiliary Mast Empty / Loaded	fpm m/s
	5.3	Lowering Speed	Main Mast Empty / Loaded	fpm m/s
			Auxiliary Mast Empty / Loaded	fpm m/s
Electric Motor		Speed Pivot	180° Rotation	sec
		Speed Traverse	ips cm/s	4 - 12
	5.10	Brakes	Drive Unit Quantity	1
			Brake Type	Mechanically Applied, Electrically Released
	6.1	Traction Motor	(Rating at S2 60 minutes)	kW
	6.2	Pump Motor	(Rating at S3 30%)	kW
	6.3	Max Battery Box Size		11.9 at 48 V
	6.4	Battery Voltage		23
	6.5	Battery Weight		See Battery Chart
	8.1	Drive Unit		AC traction

* Capacity at height will be subjected to derating. Consult the factory for exact values.

** Speeds are based on a TN mast.

† A 2" (50 mm) bolt on platform extension is added to both sides of the platform.

†† Actual platform is 58" (1475 mm) wide with a 3" (75 mm) welded platform extension on each side. Resulting platform width is 64" (1625 mm).

TSP 1000 Series

Specifications

TT Mast				Imperial	Metric
General Information	1.1	Manufacturer		Crown Equipment Corporation	
	1.2	Model	TT	TSP 1000-33	
	1.3	Power Source	Electric	48 Volt	
	1.4	Operator Type	Sit / Stand Rider	Turret Stockpicker	
	1.5	Rated Capacity*	24" (610 mm) Load Center	lb kg	3,300 1500
	1.6	Load Center		in mm	24 600
	1.8	Load Distance		in mm	16 411
	1.9	Wheel Base	"AA" Battery Compartment	in mm	80.3 2040
			"A" Battery Compartment	in mm	83.6 2125
			"B" Battery Compartment	in mm	87.0 2210
			"C" Battery Compartment	in mm	92.7 2355
Dimensions	2.1	Service Weight	Less Battery	lb kg	15,675 – 20,040 7110 – 9090
	3.1	Tires	Load / Drive		Poly
	3.2	Tire Size Front (Load Wheels)		in mm	14 x 8 355 x 205
	3.3	Tire Size Rear (Drive Tire)		in mm	16 x 6.7 406 x 170
	3.5	Wheels	Load / Drive		2 / 1
	4.2	Overall Collapsed Height	(OACH)		See Mast Chart
	4.3	Free Lift			
	4.4	Lift Height	(LH) (PFH)		
	4.5	Mast Extended Height	(EH)		
	4.8	Stand Height (Lowered)		in mm	18-95 460-2415
	4.13	Cabin Width		in mm	48, 52, 58 1220, 1320, 1475
	4.15	Fork Height (Lowered)		in mm	3 75
	4.17	Traverse Frame Width	48" (1220 mm) Platform	in mm	48, 49, 50, 51 1220, 1245, 1270, 1295
			52" (1320 mm) Platform	in mm	52, 53, 54, 55, 56†, 57† 1320, 1345, 1370, 1395, 1420†, 1450†
			58" (1475 mm) Platform	in mm	58, 59, 60, 61, 62†, 63† 1475, 1500, 1525, 1550, 1575†, 1600†
			64" (1625 mm) Platform ††	in mm	64, 65, 66, 67, 68, 69 1625, 1650, 1675, 1700, 1725, 1750
	4.19	Overall Length (With 23", 585 mm Load Handler)	"AA" Battery Compartment	in mm	146.2 3715
			"A" Battery Compartment	in mm	149.5 3800
			"B" Battery Compartment	in mm	152.9 3885
			"C" Battery Compartment	in mm	158.6 4030
	4.20	Head Length	"AA" Battery Compartment	in mm	108.2 2750
			"A" Battery Compartment	in mm	111.5 2835
			"B" Battery Compartment	in mm	114.9 2920
			"C" Battery Compartment	in mm	120.6 3065
	4.21	Overall Width (Front/Rear)	(OAW) 1" (25.4 mm) increments	in mm	48 – 82 1220 – 2085
	4.21a	Overall Width (Operator Platform)		in mm	48, 52, 58, 64 1220, 1320, 1475, 1625
	4.22	Fork Dimensions	Telescopic L x W x T	in mm	30, 31, 36, 39, 42, 47, 48, 54 x 5.9 x 2.25 760, 785, 915, 990, 1070, 1195, 1220, 1370 x 150 x 56
			Non-Telescopic L x W x T	in mm	30, 31, 36, 39, 42, 47, 48 x 4 x 1.75 760, 785, 915, 995, 1070, 1195, 1220 x 100 x 45
	4.25	Outside Fork Spread			See Outside Fork Spread Chart
	4.27	Width Across Guide Roller	.25" (6.35 mm) increments		1.25 – 8.75 (32 – 222) greater than OAW, Item 4.21
	4.32	Ground Clearance		in mm	1.8 45
	4.38	Load Handler Length	Standard	in mm	23 or 27 585 or 685
			Optional	in mm	30, 33, 36, 39, 42, 45, 48, 51, 54 760, 840, 915, 990, 1070, 1143, 1220, 1295, 1370
Performance Data	5.1	Travel Speed		mph km/h	See Travel Speed Chart
	5.2	Lift Speed	Main Mast Empty / Loaded	fpm m/s	80 / 75** .41 / .38**
			Auxiliary Mast Empty / Loaded	fpm m/s	80 / 80 .41 / .41
	5.3	Lowering Speed	Main Mast Empty / Loaded	fpm m/s	88 / 88 .45 / .45
			Auxiliary Mast Empty / Loaded	fpm m/s	65 / 80 .33 / .41
		Speed Pivot	180° Rotation	sec	6 - 10
		Speed Traverse		ips cm/s	4 - 12 10 - 30
	5.10	Brakes	Drive Unit Quantity		1
			Brake Type		Mechanically Applied, Electrically Released
Electric Motor	6.1	Traction Motor	(Rating at S2 60 minutes)	kW	11.9 at 48 V
	6.2	Pump Motor	(Rating at S3 30%)	kW	23
	6.3	Max Battery Box Size			See Battery Chart
	6.4	Battery Voltage			
	6.5	Battery Weight			
	8.1	Drive Unit			AC traction

* Capacity at height will be subjected to derating. Consult the factory for exact values.

** Speeds are based on a TN mast.

† A 2" (50 mm) bolt on platform extension is added to both sides of the platform.

†† Actual platform is 58" (1475 mm) wide with a 3" (75 mm) welded platform extension on each side. Resulting platform width is 64" (1625 mm).

TSP 1000 Series

Specifications

Mast Chart

9										10				11		12	
Lift Height (LH)		Platform Floor Height (PFH)		Free Lift TN*		Free Lift TF**		Free Lift TT**		Overall Collapsed Height TN/TF		Overall Collapsed Height TT		Extended Height (EH)		Minimum Overall Width	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
193	4900	139	3530	72	1825	na	na	na	na	118	3000	na	na	235	5970	48	1220
207	5255	153	3885	72	1825	83	2105	na	na	125	3175	na	na	249	6325	48	1220
219	5560	165	4190	72	1825	89	2260	na	na	131	3330	na	na	261	6630	48	1220
231	5865	177	4495	72	1825	95	2410	73	1850	137	3480	115	2925	273	6935	48	1220
243	6170	189	4800	72	1825	101	2565	77	1955	143	3635	119	3025	285	7240	48	1220
255	6475	201	5105	72	1825	107	2715	81	2055	149	3785	123	3125	297	7545	48	1220
267	6780	213	5410	72	1825	113	2870	85	2155	155	3940	127	3230	309	7850	48	1220
279	7085	225	5715	72	1825	119	3020	89	2260	161	4090	131	3330	321	8155	48	1220
291	7390	237	6020	72	1825	125	3175	93	2360	167	4245	135	3430	333	8460	48	1220
303	7695	249	6325	72	1825	131	3325	97	2460	173	4395	139	3535	345	8765	48	1220
315	8000	261	6630	72	1825	137	3475	101	2565	179	4550	143	3635	357	9070	48	1220
327	8305	273	6935	72	1825	143	3630	105	2665	185	4700	147	3735	369	9375	48	1220
339	8610	285	7240	72	1825	149	3780	109	2765	191	4855	151	3840	381	9680	48	1220
351	8915	297	7545	72	1825	155	3935	113	2870	197	5005	155	3940	393	9985	48	1220
363	9220	309	7850	72	1825	161	4085	117	2970	203	5160	159	4040	405	10,290	48	1220
375	9525	321	8155	72	1825	167	4240	121	3070	209	5310	163	4140	417	10,595	48	1220
387	9830	333	8460	72	1825	173	4390	125	3175	215	5465	167	4245	429	10,900	49	1245
399	10,135	345	8765	72	1825	179	4545	129	3275	221	5615	171	4345	441	11,205	50	1270
411	10,435	357	9065	72	1825	185	4695	133	3375	227	5770	175	4445	453	11,510	51	1295
423	10,740	369	9370	72	1825	191	4850	137	3475	233	5920	179	4550	465	11,815	52	1320
435	11,045	381	9675	72	1825	197	5000	141	3580	239	6075	183	4650	477	12,120	54	1370
447	11,350	393	9980	72	1825	203	5155	145	3680	245	6225	187	4750	489	12,425	55	1395
459	11,655	405	10285	72	1825	209	5305	149	3780	251	6380	191	4855	501	12,730	56	1420
471	11,960	417	10590	72	1825			153	3885	257	6530	195	4955	513	13,035	58	1475
483	12,265	429	10895	72	1825			157	3985	263	6685	199	5055	525	13,335	59	1500
495	12,570	441	11200	72	1825			161	4085	269	6835	203	5160	537	13,640	61	1550
507	12,875	453	11505					165	4190			207	5260	549	13,945	61	1550
519	13,180	465	11810					169	4290			211	5360	561	14,250	62	1575
531	13,485	477	12115					173	4390			215	5465	573	14,555	63	1600

* Maximum fork height using auxillary lift only.

** Maximum fork height with no collapsed height change.

Travel Speed

		Maximum Speed*			
		Empty		Loaded	
Forks First	Any Position	mph	kmph	6.5	10.4
Power Unit First	Side Facing / Forward Facing	mph	kmph	7.5 / 6.0	12 / 9.6

* In aisle, fully lowered, forks in the home position.

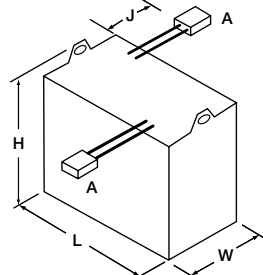
Outside Fork Spread

Outside Fork Spread					Fork Spread			
	Load Handler		Carriage Width		Telescopic*		Non-Telescopic**	
TN/TF Mast	23" – 54" (585 – 1370)	in mm	30	760	21.5 – 30	550 – 760	15 – 30	380 – 760
	29" – 54" (735 – 1370)	in mm	42	1065	33.5 – 42	850 – 1065	15 – 42	380 – 1065
	35" – 54" (890 – 1370)	in mm	54	1370	45.5 – 54	1155 – 1370	15 – 54	380 – 1370
TT Mast	23" – 54" (585 – 1370)	in mm	30	760	21.5 – 30	550 – 760	15 – 30	380 – 760
	29" – 54" (735 – 1370)	in mm	42	1065	33.5 – 42	850 – 1065	15 – 42	380 – 1065
	35" – 54" (890 – 1370)	in mm	54	1370	45.5 – 54	1155 – 1370	15 – 54	380 – 1370

* In 1.4" (35.6mm) increments.

** In 1.5" (38.1mm) increments.

46 Batteries



* Width is measured on the side of the battery with lifting hooks

		Voltage		Capacity (6 hr rate)		Number of Plates	Length Max		Width Max		Height Max		Minimum Weight		Maximum Weight	
		volts		amp-hrs	kw-hrs		in	mm	in	mm	in	mm	lb	kg	lb	kg
48 Volt System	"AA"	48		840 - 930	39.0 - 43.1	13	44.50	1130	21.38	543	31.00	787	2800	1270	3410	1545
	"A"	48		875 - 1085	40.6 - 50.3	15 or 17	44.50	1130	24.69	627	31.00	787	2900	1315	3700	1680
	"B"	48		1000 - 1240	46.4 - 57.5	17 or 19	44.50	1130	28.12	714	31.00	787	3140	1425	4500	2040
	"B"	48 (24x2)		1000 - 1240	46.4 - 57.5	17	44.50	1130	13.5 (x2)	343 (x2)	31.00	787	1570 (x2)	712.5 (x2)	2250 (x2)	1020 (x2)
	"C"	48		1250 - 1550	58.0 - 71.9	21 or 23	44.50	1130	33.75	857	31.00	787	3880	1760	5530	2510
	"C"	48 (24x2)		1125 - 1395	52.2 - 64.7	19	44.50	1130	16.25 (x2)	413 (x2)	31.00	787	1940 (x2)	880 (x2)	2765 (x2)	1255 (x2)

* Width is measured on the side of the battery with lifting hooks

Connector Location / Length (J) is A/15" (A/381 mm). Standard Connectors: 48 Volt "AA", "A", "B", "C" = SB350 Blue; 48 (24x2) Volt "B", "C" = SB350 Red.

TSP 1000 Series

Technical Information

Standard Equipment

- Crown's Gena Operating System
- 48-volt fused electrical system
- AC lift, traction, and steer motors
- Blended main mast and auxiliary mast lift functionality
- OnTrac Anti-Slip Traction Control
- Manual Wire Sense (with optional wire guidance)
- Integrated InfoLink Hardware ***
 - Smart card reader
 - Impact sensors (2)
 - Wi-Fi radio
- Connectivity*
 - Cellular radio
 - Wireless truck software updates
 - Wireless truck data collection
 - Push wireless settings
- RAM Mounted 7" Color Touch Screen Display with Integrated Speaker
 - Optically bonded 2mm thick capacitive touch screen
 - Integrated navigation buttons for freezer/cold storage applications
 - 40+ available languages
 - Vehicle status icons
- Customizable dashboard with widgets
 - Stopwatch
 - Battery Discharge Indicator
 - Steer Wheel Indicator / Wire Guidance
 - Hour Meter
 - Height/Weight
 - Clock
 - Odometer
 - Capacity Data Monitor
 - Zone Select
 - Auto Positioning System**
 - Calculator
- Performance modes
- Safety reminders
- Step-by-step calibrations
- Enhanced service diagnostics with storage history
- Maintenance mode***
- Visual inspection checklist***
- Impact strobe light and impact alerts***
- Start-up and run time diagnostics
- Hour meters include traction motor, hydraulic motor, steer motor, and run time (increments when any of previous three are active)
- Adjustable speed curves and top travel speeds
- Linear height speed control gradually reduces travel speed as the platform raises
- Programmable lift/lower cutouts with overrides
 - Zone select allows for limiting of lift/lower cutouts into 3 separate zones
- Intelligent braking system combines the optimum amount of friction and motor braking
- Intelligent steering system automatically slows the travel speed when in a turn and provides smooth, electronic steering
- MoveControl Seat
 - Fully integrated right and left hand controls
 - Display navigation knob on left hand controls
 - Allows -20, 0, 60, and 90 degree operating positions
 - Independent seat swivel
 - Sit or stand operation
 - 7.5" (190 mm) height adjustment (seat and armrests)
 - Armrest position adjustments
 - Integrated hand sensors
- MonoLift Mast for optimal stability at height and excellent visibility
- Heavy-duty power unit
 - Easily removable steel doors and covers
 - Top battery access
 - LED amber flashing light
 - Removeable steer wheel cover
 - Panel located in power unit for service raise/lower functionality
 - Manual lowering valve release located in power unit
 - 2-3/4" (70 mm) diameter battery rollers
 - SB 350 battery connector
 - Color-coded wiring
 - Poly heavy-duty drive tire
- Heavy-duty platform
 - Sturdy front rails and hinged side gates
 - Smooth and blended control of travel, raise/lower, traverse and pivot
 - MoveControl Seat
 - Premium floor mat
 - Integrated Work Assist Tube
 - Two-speed operator fan
 - Dual, overhead LED dome lights

* Crown lift trucks with the Gena OS are connected products. Please see crown.com for the data use policy to see more. Not available in all countries.

** On screen with optional auto positioning system functionality.

*** Functional with an active InfoLink service plan.

- Dual, adjustable, overhead LED work lights
- Adjustable rear view mirror
- Shock absorbing tether and body harness
- Key switch
- Horn
- 12-volt accessory outlet
- USB charging port
- Multiple storage bins
- Partial overhead plexiglass shield

21. InfoPoint Maps

Optional Equipment

1. Wire and/or rail guidance
2. End-of-aisle control system
3. Semi-Automated Solutions
 - Auto Fence
 - Auto Positioning System with Auto Fence
4. TF mast for full free lift or three stage mast (TT) for superior collapsed heights and full free lift
5. Power unit/Main frame
 - “AA”, “A”, “B” or “C” battery box
 - Stabilizer bars for wire guided trucks $\leq 531"$ (13,485 mm)
 - Selectable overall width (OAW), in 1" (25 mm) increments
 - Non-marking load wheels
 - Various strobe lights
 - Floor spotlight - blue
 - Battery retainer switch
 - V-Force Lithium-Ion Ready
 - Fuel cell ready
6. Platform
 - Extended load handler lengths and carriage widths
 - Standard-profile telescopic, low-profile telescopic, or non-telescopic forks
 - Tilting fork carriage (non-telescopic forks only)
 - Power source and mounting brackets for WMS terminal
 - Front and rear windshields
 - Fire extinguisher
 - Narrow front rail
 - Keyless user access
 - Fold-up armrests

7. Environmental packages
 - UL EE Rating
 - Freezer conditioning
 - Enclosed cabin – heated
8. Work Assist Accessories
 - Second fan
 - Second set of LED work lights
 - Clip pad and hook
 - Plate (for RF mount)
 - Adjustable arm mounting system

Crown's Gena Operating System

Leverages a proven integrated control module structure to provide an enhanced user experience for both the operator and the service technician. Integrated InfoLink hardware allows for seamless enabling of Crown's telematics fleet management solution and semi-automation product offerings.

The Gena Operating System monitors all on-board sensors, makes decisions based upon the sensor readings, and subsequently, controls all system movements safely and smoothly. All control modules are in constant communication via a CAN (Control Area Network) bus so that real time information is accessible to the system at all times.

Standard safety and productivity features further boost operator confidence and throughput in narrow aisle applications. Real-time truck communication to the user equates to a powerful data-rich experience. Wireless firmware downloads ensure that the Gena operating system can be easily updated without requiring the use of a handset or laptop.

7" Touch Screen Display

The industrial grade, capacitive touch screen display provides intuitive menus and configurable widgets to enhance operator engagement and productivity. Large on-screen color graphics provide a bolstered visual interface while an integrated speaker provides unique audible tones specific to the on-screen communication.

Screens also offer context-sensitive assistance, including alerts, automated assistance, and dynamic real-time data. Safety reminder

messages and an inspection checklist with visual cues* provide industry exclusive capabilities to assist in safe operation.

A refined service menu enables viewing of multiple lift truck inputs and outputs and step-by-step calibrations with voltage readouts which assists in expediting trouble shooting. Easy access to service history, setting up performance parameters, and enabling truck features is all available through the display.

Electrical

Heavy-duty 48-volt electrical power system provides unrivaled turret stockpicking performance. AC lift and traction motors provide excellent control at low speeds and industry leading performance at top speeds. All truck functions are monitored and controlled through the Gena Operating System. Each of the nine microprocessor control modules, located throughout the truck, are in constant communication with each other providing an unparalleled degree of control. Long-life, solid state encoders and hall effect sensors are utilized where appropriate to sense operating parameters. Only two contactors are needed, greatly reducing wearable items. Color-coded wiring and Crown's exclusive InfoPoint System reduces downtime by providing clear direction for the service technician.

Operator Platform

The multi-patented MoveControl Seat provides unprecedented levels of flexibility for the turret stockpicker operator. The seat can be positioned at -20, 0, 60, or 90 degrees, whichever is most productive for the operator. The seat bottom and backrest also swivel independently for an added degree of mobility. The seat bottom can be lifted up to provide a soft backrest for a standing operator. The seat also has 7.5 inches (190 mm) of height adjustability.

Controls for all operating functions are positioned smartly in the seat armrests. The controls are always positioned consistently for the operator, regardless of seat orientation. Armrests also feature standard pivot functionality, or optional flip-up capability, to permit free movement within the platform.

Multi-task controls are arranged so that a wide array of blended functions can occur. The right hand controls travel, main raise and lower, and traverse functions, while the left hand controls auxiliary lift/lower, pivot, and features a standard display navigation knob for easy control of the truck display from the seat. Hands are sensed using infrared light beams, while feet activate large, flat sensors in the floor.

The spacious floorboard is covered with a premium floor mat for optimum comfort. Other operator comforts include a series of Work Assist Accessories such as a two-speed fan, two LED work lights that are located in the overhead guard, and two overhead LED dome lights. Additional Work Assist Accessories can also be mounted to the standard vertical Work Assist tube, or to either of the standard tubes built into the overhead guard. Multiple storage compartments provide abundant room for personal items and tools. A standard 12-volt accessory outlet and 5-volt, 2.1 amp USB port provide additional power supplies for electronic devices.

The operator's feet and right hand must be in the proper operating position for the travel and main raise functions to work. For load handler functions, the left hand sensor must be activated. The gates must also be closed during any powered truck movement. The truck can be stopped by activation of either of two foot-operated, positive action service brakes or by reversing the traction motor for smooth AC plugging.

Power Unit

The heavy-duty power unit was designed to evenly disperse load stresses during pallet retrieval and put away. Steel doors and covers protect the electrical and hydraulic system components from the operating environment and intrusion. All covers can be easily removed with only a few tools. Sturdy skid bars can be easily adjusted and replaced. Batteries are serviced through the top battery access panel, which pivots easily out of the way.

* Functional with an active InfoLink service plan.

MonoLift Mast

Elevated load sway and side bowing are minimized through the use of a closed cross-sectional mast construction. Rolled "I-beams" continuously welded to a formed plate create a full length, deep cross-section mast capable of resisting front and side loading equally well. Lift cylinders, hoses, cables, and chains within the mast are protected from the operating environment but are readily accessible for service. Built-in sensors in the primary mast detect chain slack and shut down primary lower, auxiliary lower, pivot and traverse functions. A glass window in the rear of the platform provides additional visibility above staging.

Simplified Hydraulic System

The hydraulic system has been designed to provide industry-leading performance with a simplified approach that incorporates fewer parts, fewer connections, and fewer hoses. The mast/outriggers (mainframe) can be completely separated from the power unit without disconnecting any hydraulic connections. Not only is it easier to tear down the truck for transport, but the hydraulic system is isolated from the electrical system so that oil and other contaminants will not affect operation. All hydraulic functions are controlled by only two manifold blocks – one in the main frame, and one in the load handler.

One large AC motor provides plenty of power for main lift, auxiliary lift, traverse, pivot, and fork extension. The hydraulic and electrical systems work together to allow excellent control of the load handler for smooth and safe manipulation of loads. Acceleration rates and top functional speeds can be programmed to suit the application. Main lift and auxiliary lift functions, as well as main lower and auxiliary lower functions, can be blended, providing enhanced controllability.

The regenerative lowering system reclaims energy upon every lower. This improves shift life and requires fewer battery changes.

A manual lowering valve, positioned in the power unit, will allow the platform to be lowered from the ground. Forks can be returned to the home position prior to lowering.

Traction System

A massive AC traction motor and associated drive unit provides for unparalleled top travel speeds and precise control at low speeds. Acceleration and deceleration rates can be programmed to fit the application, while direction reversals are smooth and immediate. Many speed selectable programs can be chosen to maximize safety and productivity. Although many factors such as direction of travel, height of the platform, position of the forks, and whether operating in a guided mode will have a bearing on speed, top travel speed is achieved in the power unit direction with the seat in the 90 degree position. Top speeds will be diminished gradually as the platform is raised.

Patented OnTrac anti-slip traction control monitors truck dynamics, optimizes tractive effort, reduces spinning during acceleration, prevents lock-up during braking, and can extend tire life. It improves traction performance in wet, dusty, or cold storage conditions.

Intelligent Braking

The Intelligent Braking System combines variable motor braking with a three-step friction brake to optimize safety and comfort for the operator. Operating conditions such as speed of the truck, direction of travel, height and weight on the forks and weight of the truck are taken into account when the brakes are applied. In addition, friction brake use is minimized, which prolongs brake life.

Although the service brake is always available to the operator through two floor pedals, the operator can choose to bring the truck to a controlled stop by reversing the direction of the travel control (plugging).

Intelligent Steering

Full AC electronic steering provides smooth and easy maneuvering for the operator. Top travel speed of the truck is decreased when the steer wheel angle is greater than ten degrees. Further speed reductions occur as the steer angle is increased. This intelligent approach provides safety and comfort for the operator.

Load Handler

The fork carriage pivots (turrets) 180° permitting pickup and deposit from either side or front of the truck. Position of the forks is continually monitored to permit safe, smooth and productive operation. Fork handling functions can be blended together for simultaneous operation which will greatly improve productivity. The Auto-Pivot feature will automatically traverse and pivot the forks, all while keeping the pallet centered in the aisle. Fork spread is incrementally adjustable while two choices of forks are available – telescopic or non-telescopic. Telescopic forks automatically extend during the traverse function or can be manually extended using the standard override button. Programmable height limits are also available for raise and lower. Lower and raise limits can be overridden by the operator, if desired.

Lift cylinder, hydraulic hoses and electrical cables are protected within the profile of the structure or behind removeable covers. Vertical side alignment of the auxiliary mast is maintained by rack and pinion gears.

Wheels and Tires

Large, high-load capacity poly-urethane press-on load wheels are 14" (355 mm) diameter x 8" (205 mm) wide. The poly heavy-duty drive tire is 16" (406 mm) diameter x 6.7" (170 mm) wide. Guide wheels for rail guidance are 6" (150 mm) diameter x 2" (50 mm) wide.

Warning Device Options

Audible Alerts

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 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.



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.

crown.com

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

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