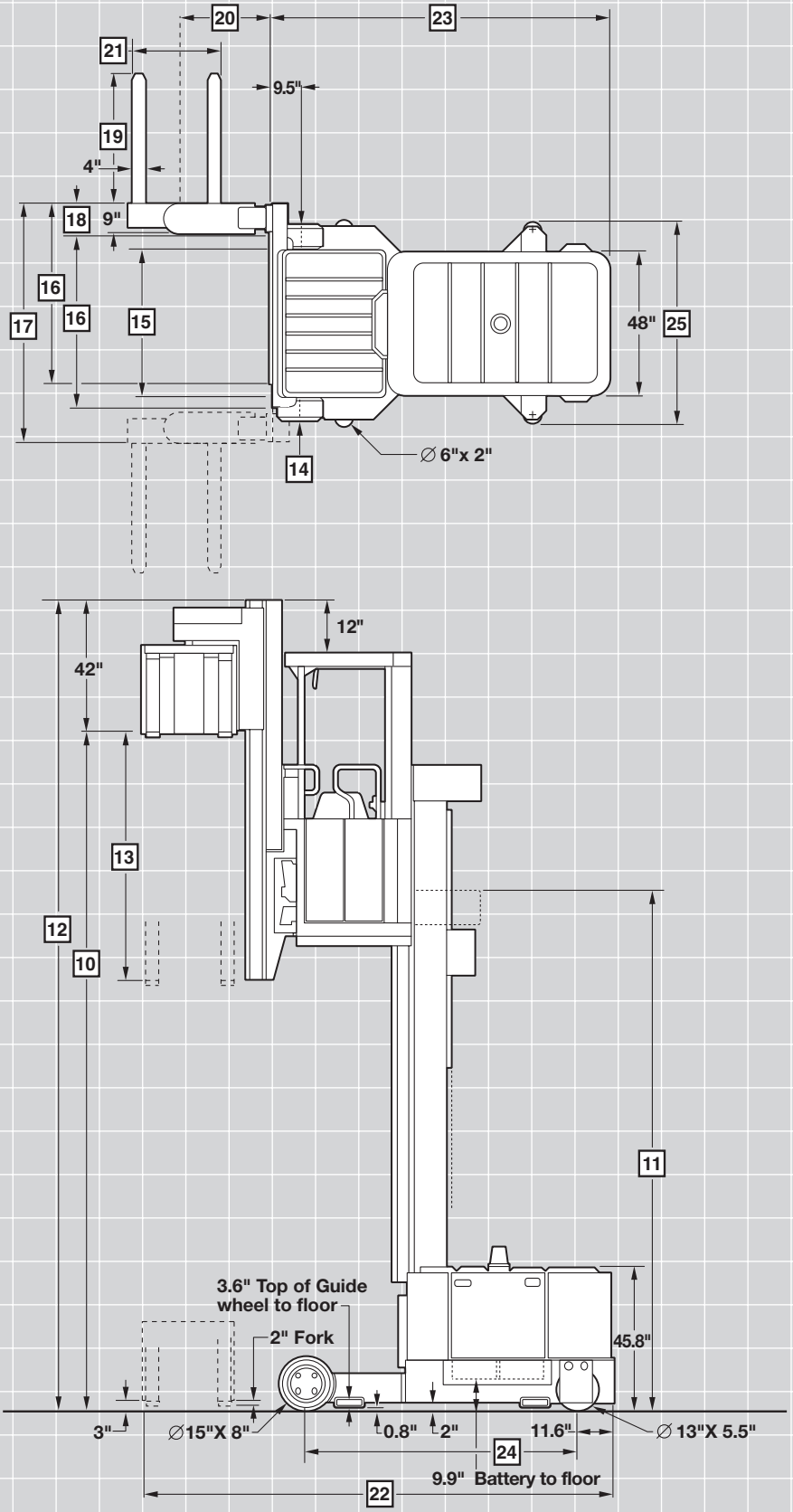
Specifications

Series TS

Turret
Sideloader

Series TS


20
23
21
9.5"
19
4"
18
9"
16
16
17
15
48"
25
14
∅ 6"x 2"
12"
42"
13
12
10
11
3.6" Top of Guide wheel to floor
2" Fork
45.8"
3"
∅15"X 8"
0.8"
2"
11.6"
∅ 13"X 5.5"
24
9.9" Battery to floor
22

General Info	1	**Manufacturer**			**Crown Equipment Corporation**	
	2	**Model**			40TS	
	3	**Load Capacity***	24" Load Center	lb	4000	
	4	**Power**	Electric		72-Volt (2 x 36 Volt)	
	5	**Operator Type**	Sitdown Rider		Turret Sideloader	
	6	**Tire Type**	Load/Drive		Poly/Poly	
	7	**Wheels (x = driven)**	Load/Drive		2/2x	
	8	**Truck Weight**	Less Battery	lb	11,000 - 14,200	
Dimensions	10	**Lift Height**	Lift Height		See Chart	
	11	**Collapsed Height**	Overall		See Chart	
	12	**Extended Height**	Overall		See Chart	
	13	**Auxiliary Lift**		in	81	
	14	**Load Wheel Overall Width (OAW)**	Available in 1" increments	in	48 to 72	
	15	**Operator Compartment Width**	With Any Carriage Width	in	48	
	16	**Carriage and Cab Width**		in	**48**	**58**
	17	**Clear Aisle - in 1" increments**	Carriage and Total Sideshift	in	56 - 69	66 - 79
	18	**Sideshift Per Side**	Available in .5" increments	in	4 to 10.5	
	19	**Forks**	L x W x T	in	30, 36, 37, 42, 45, 48, x 4 x 2	
	20	**Load Handler Length**	Standard	in	28.3	
			Available in 3" increments	in	From 30.3 to 54.3	
	21	**Outside Fork Spread**	For Load Handler from 28.3 to 54.3	in	15.3 to 29.3	
			For Load Handler from 36.3 to 54.3	in	15.3 to 43.3	
			For Load Handler from 48.3 to 54.3	in	15.3 to 53.8	
	22	**Overall Length with 28.3" Load Handler**	C Battery Compartment	in	154	
			D Battery Compartment	in	157.5	
	23	**Headlength**	C Battery Compartment	in	109.9	
			D Battery Compartment	in	113.4	
	24	**Wheelbase**	C Battery Compartment	in	88.8	
			D Battery Compartment	in	92.3	
	25	**Width across Guide Roller**	Available in .25" increments	in	1.25 - 8.75 greater than item 14	
Performance	30	**Speed Travel**		mph	See Technical Information	
	31	**Speed Lift**	Primary Mast Empty/Loaded	fpm	80/64	
			Auxiliary Mast Empty/Loaded	fpm	70/55	
	32	**Speed Lower**	Primary Mast Empty/Loaded	fpm	80/80	
			Auxiliary Mast Empty/Loaded	fpm	40/70	
	33	**Pivot Speed**	180 degree rotation		7 seconds	
	34	**Traverse Speed**	Inches per second		8	
Battery	40	**Battery (Two Required)**			**C Compartment**	**D Compartment**
			Max Battery Size	in	15.88 x 38.38 x 31 high	18 x 38.69 x 31 high
			Min Weight/Max Amp	lb/Ah	1770/930	2085/1085
			Number of Plates/Total Kwh		13/64.4	15/75.2
	50	**Brakes**	Number Load/Drive		2/2	
			Load Wheel Brakes		Dual Disc	
			Drive Unit Brakes		Dual Drum	

*Contact factory. Capacity may be subject to derating.
Derating is dependent upon a combination of: load center, load wheel spread, 180° traverse/sideshift, battery compartment size, lift height, travel speed and height of Auxiliary Mast.

Mast	10	**Lift Height**	in	219	231	243	255	267	279	291	303	315	327	339	351	363
		Free Lift (TN)*	in	84	84	84	84	84	84	84	84	84	84	84	84	84
		Free Lift (TF)**	in	83	89	95	101	107	113	119	125	131	137	143	149	155
	11	**Collapsed Height**	in	125	131	137	143	149	155	161	167	173	179	185	191	197
	12	**Extended Height**	in	261	273	285	297	309	321	333	345	357	369	381	393	405

Mast	10	**Lift Height**	in	375	387	399	411	423	435	447	459	471	483	495	507
		Free Lift (TN)*	in	84	84	84	84	84	84	84	84	84	84	84	84
		Free Lift (TF)**	in	161	167	173	179	185	191	197	203	209	215	221	227
	11	**Collapsed Height**	in	203	209	215	221	227	233	239	245	251	257	263	269
	12	**Extended Height**	in	417	429	441	453	465	477	489	501	513	525	537	549

* Auxiliary lift only.
** Including auxiliary lift.
Note: Battery removal from left side.

Standard Equipment

1. 72-volt fused electrical system.
2. SCR controlled lift and drive motors.
3. Electric power steering.
4. Microprocessor controlled.
5. 350-amp battery connector.
6. Emergency power disconnect.
7. Color-coded wiring.
8. Chain slack sensors.
9. Hour meters independently recording key on, traction, lift, steer and accessories.
10. Start-up time and run time diagnostics.
11. Diagnostic history with optional service terminal.
12. Battery discharge indicator with lift interrupt.
13. Maximum travel speed programmed to meet the application's specs.
14. Gradual reduction in maximum travel speed as primary lift is increased.
15. Swivel seat with height adjustment.
16. Hinged cab door.
17. Key switch.
18. Horn.
19. Two-speed fan.
20. Cab light.
21. Work lights.
22. Rear view mirror.
23. Flashing light.
24. Storage pockets.
25. Infinite hydraulic control of raise/lower, traverse and pivot.
26. Manual lowering valve located in power unit.
27. Solid four-point suspension.
28. Rigid tubular mast.
29. Third mast chain.
30. 2-3/4" diameter battery rollers.
31. Dual drive units.
32. Four-wheel braking automatically switched to two-wheel at slower speeds.

Optional Equipment

1. Wire guidance.
2. Rail guidance.
3. End of aisle control system.
4. Extended load handler lengths and carriage widths.
5. Extended Auxiliary Lifting heights.
6. Programmable fork height limits with overrides.
7. Non-marking tires.
8. Power source and mounting brackets for CRT.
9. Fire extinguisher.
10. Cold conditioning.
11. Additional work lights.
12. Service Terminal.

Travel Speeds
Maximum travel speed on guidance is: 6 mph (528 fpm) to 156" fork elevation. Gradual speed reduction to 1 mph at 372", 1 mph above 372" fork elevation.

Travel speed is limited to 1 mph under any of the following conditions:

1. Forks are elevated above 12" on the auxiliary mast.
2. Forks are not at full pivot.
3. Load handler traverse-sideshift are not at clear-aisle travel position.

Travel speed is disabled under any of the following conditions:

1. Forks are not at full pivot and above 240".
2. Not on guidance and above 240".
3. Not on guidance, forks not at clear-aisle travel position above 93" and steering turned greater than 10°.
4. The TN travel speed is disabled, whenever out of guided aisle and primary lift is raised, unless otherwise specified.

Travel speeds not on guidance are less than those on guidance at elevated fork heights.

Wheels and Tires
Large, high-load capacity polyurethane press-on tires. Load wheels - 15" diameter x 8" wide. Drive Wheels - 13" diameter x 5.5" wide. Guide Wheels - 6" diameter x 2" wide molded-on hub, non-press-on.

Suspension
Four-point solid suspension with long wheel base and wide spread of load and drive wheels improve truck capacity, reduce effect of uneven floors, and improve floor load distribution.

Forks--Fork Carriage--Turret Carriage
Forks are incrementally adjustable. Fork carriage pivots through 180° permitting pickup and deposit from either side or front. Cylinders are equipped with hydraulic cushion stops to automatically reduce speed at end of pivot. Cross-over relief valves reduce excess pressure should forks be force-pivoted. Pivot lock engages at full-rotated position to prevent drift.

Auxiliary Mast
Turret carriage with forks can be elevated on the auxiliary mast to permit stacking close to the ceiling. Operator can view the load from the underside at full auxiliary lift to aid load placement. Lift cylinder, hydraulic hoses and electrical cables are protected within the profile of the structure, or behind removable covers. Vertical side alignment of the mast is maintained by gear racks and pinions. Lowering of auxiliary and primary lift system will stop if chains become slack.

Traverse and Sideshift
Traverse movement of the auxiliary mast and side movement of the sideshift carriage are automatically sequenced, requiring only one operator control. Full sideshift travel with built-in limits is brought to a smooth stop by hydraulic cushions. Withdrawal of forks from the side-extended position automatically stops at the travel position.

Operator Cab and Controls
Adjustable operator's seat pivots 35° from a full side position toward a forward position to provide visibility to the front, rear or either side.

Lever controls permit all load handling functions to be infinitely controlled. Left hand control is used for primary and auxiliary raise and lower. Right hand pivot and traverse controls can be simultaneously operated for pivoting the load in a minimum amount of space. Movement of the sideshift carriage is automatically sequenced to the traverse control. Integrated palm-pressure buttons in the control knobs require the operator to keep his hands within the compartment during any load handling function. Programmable fork height limits are available for raise and lower. Both lower and one raise limit can be overridden by the operator.

Steer wheel position indicator is located next to the steering arm. Forward and reverse travel is controlled by a directional selector and accelerator pedal. The truck can be stopped by activation of foot-operated brake, proportional plugging, parking brake, emergency disconnect or power key.

A control and feed back display include indicator lights for forward and reverse travel direction, load handler clear aisle travel position lights, palm switch light, open cab door warning light, master service-required light, service calibration light, wire guidance field strength light (optional), wire guidance switch and status lights (optional), parking brake switch with status light, fork height limit override button with light, and discharge indicator with low voltage lift interrupt to reduce truck and battery maintenance.

Controls permitting emergency fork movement are located below the hinged arm rest pad. Horn button, primary power emergency disconnect and power key are provided. All controls are located convenient to the operator.

Storage pockets for work sheets are provided. A two speed fan, cab light and work lights front and back, are located in the overhead consoles.

Primary Mast
Elevated load sway due to mast twisting, plus forward and side bowing are minimized through the use of closed cross-section mast construction. Rolled "I" beams continuously welded to a flat and 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 readily accessible for service. Built-in sensors detect slack chain and shut down primary lower, auxiliary lower, pivot and traverse functions.

Drive Units-Steering
Steerable dual drive units with fixed mounted traction motors minimize wear and maintenance on electrical cables. Full electrical power steering uses servomotors for turning the drive wheels. Drive wheels are automatically centered on trucks equipped with aisle-guide rollers.

Brakes
Two force levels of mechanical braking provide smooth stopping. This is achieved by the truck automatically switching from four wheel to two wheel braking at slower travel speeds. Braking can also be accomplished by proportional plugging which permits the operator to control rate of deceleration when a greater stopping distance is acceptable.

Electrical
Heavy duty 72 volt electrical power system reduces current requirements for improved efficiency. SCR controlled lift and drive motors. Each controller provides current limiting motor protection in addition to the fuses. Two on-board micro-computers are integrated into the truck to provide maximum load handling through-put and smooth truck performance. Serial data link communications between the elevated cab and the lower power unit minimizes the number of electrical conductors through the mast. Long life solid state encoders and LVDT are used in place of potentiometers. Travel speed is sensed and regulated to precise rate. Height sensor provides input for a programmed gradual reduction in maximum allowable travel speed as the primary lift is elevated. Maximum lift and lower speeds are reduced near full lift and lower to provide a soft stop. On-board software includes truck calibration, system diagnostics and trouble isolation capabilities accessible by an optional plug-in terminal.

Hydraulics
Maximum lowering speed is limited by pressure-compensating flow controls and velocity fuses. Integrated hydraulic cylinder cushions bottom stop when lowering. All lift cylinder rams are plated. Primary mast emergency lowering valve and load handler emergency power switch are located in the power unit.

Other Options
1. Audible Travel Alarm.
2. Contact factory for additional options.

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.

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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