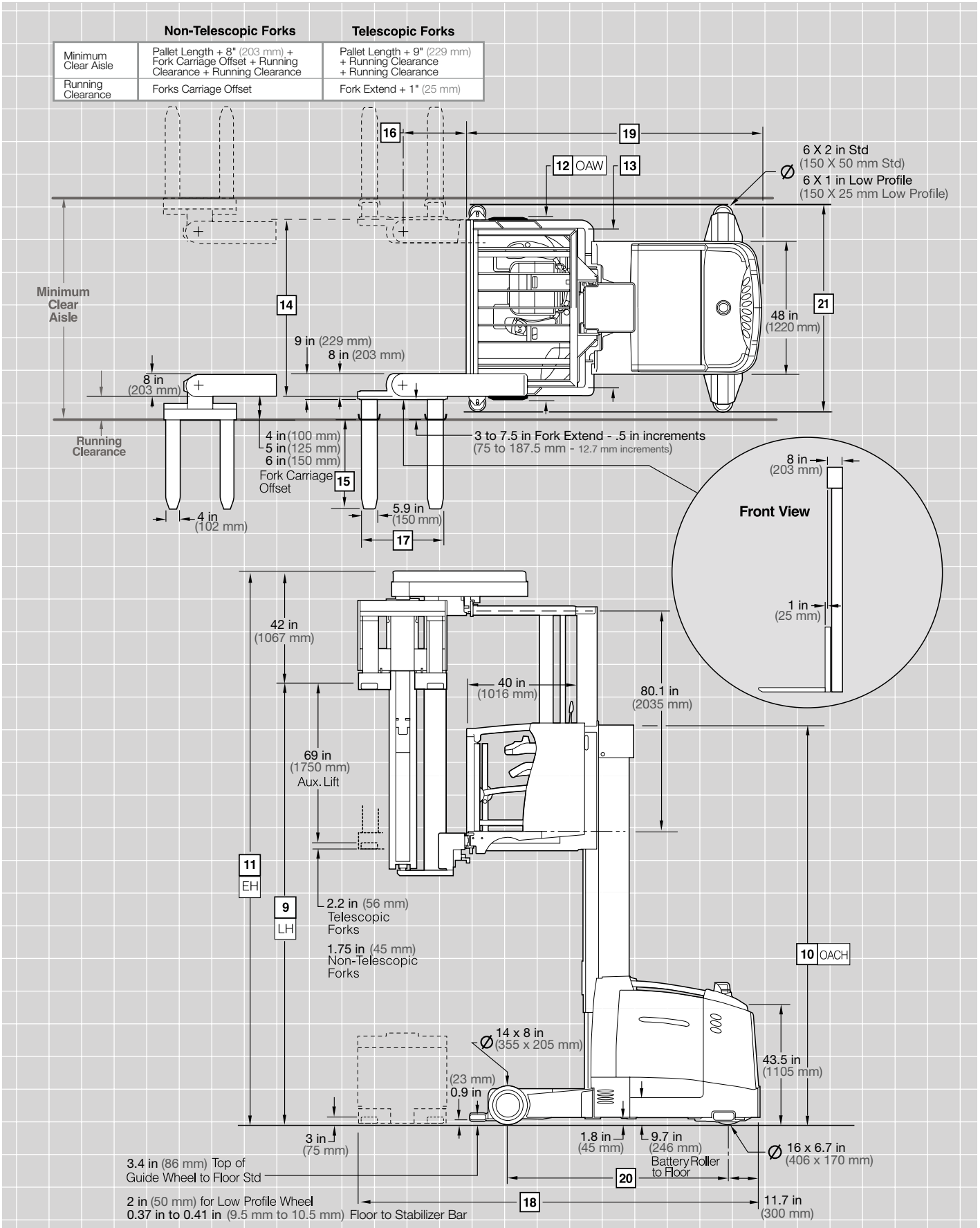
# TSP 6500 SERIES

**Specifications**
Turret Stockpicker

| | Non-Telescopic Forks | Telescopic Forks |
|---|---|---|
| Minimum Clear Aisle | Pallet Length + 8" (203 mm) + Fork Carriage Offset + Running Clearance + Running Clearance | Pallet Length + 9" (229 mm) + Running Clearance + Running Clearance |
| Running Clearance | Forks Carriage Offset | Fork Extend + 1" (25 mm) |



| TN/TF Mast | | | | | *Imperial* | *Metric* |
|---|---|---|---|---|---|---|
| General Information | 1 | **Manufacturer** | | | **Crown Equipment Corporation** | |
| | 2 | **Model** | **TN/TF Mast** | | **TSP 6500-33** | |
| | 3 | **Load Capacity, Max*** | 24" (610 mm) Load Center | lb kg | 3300 | 1500 |
| | 4 | **Power** | Electric | | 48 Volt | |
| | 5 | **Operator Type** | Sit / Stand Rider | | Turret Stockpicker | |
| | 6 | **Tire Type** | Load / Drive | | Poly / Vulkollan | |
| | 7 | **Wheels** | Load / Drive | | 2 / 1 | |
| | 8 | **Truck Weight** | Less Battery | lb kg | 13,500 – 16,000 | 6125 – 7260 |
| Dimensions | 9 | **Lift Height** | (LH) | | See Mast Chart | |
| | 10 | **Overall Collapsed Height** | (OACH) | | See Mast Chart | |
| | 11 | **Extended Height** | (EH) | | See Mast Chart | |
| | 12 | **Overall Width (Load Wheel)** | (OAW) 1" (25.4 mm) increments | | 48 – 83 | 1220 – 2110 |
| | 13 | **Platform Width** | | in mm | 48, 52, 58 | 1220, 1320, 1475 |
| | 14 | **Traverse Frame Width** | 48" (1220 mm) Platform (Pf) | in mm | 48, 49, 50, 51 | 1220, 1245, 1270, 1295 |
| | | | 52" (1320 mm) Pf | in mm | 52, 53, 54, 55, 56†, 57† | 1320, 1345, 1370, 1395, 1420†, 1450† |
| | | | 58" (1475 mm) Pf | in mm | 58, 59, 60, 61, 62†, 63† | 1475, 1500, 1525, 1550, 1575†, 1600† |
| | | | 64" (1625 mm) Pf †† | in mm | 64, 65, 66, 67, 68, 69 | 1625, 1650, 1675, 1700, 1725, 1750 |
| | 15 | **Fork Length** | Telescopic L x W x T | in mm | 36, 37.4, 42, 45.3, 48, 54 x 5.9 x 2.25 | 915, 950, 1070, 1150, 1220, 1370 x 150 x 56 |
| | | | Non-Telescopic L x W x T | in mm | 30, 36, 37.4, 42, 45.3, 48 x 4 x 1.75 | 760, 915, 950, 1070, 1150, 1220, x 100 x 45 |
| | 16 | **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 |
| | 17 | **Outside Fork Spread** | | | See Fork Spread Chart Below | |
| | 18 | **Overall Length (With 23", *585 mm* Load Handler)** | "AA"/"A" Battery Compartment | in mm | 145.0 | 3685 |
| | | | "B" Battery Compartment | in mm | 148.4 | 3770 |
| | | | "C" Battery Compartment | in mm | 154.1 | 3915 |
| | 19 | **Headlength** | "AA"/"A" Battery Compartment | in mm | 107.0 | 2720 |
| | | | "B" Battery Compartment | in mm | 110.4 | 2805 |
| | | | "C" Battery Compartment | in mm | 116.1 | 2950 |
| | 20 | **Wheelbase** | "AA"/"A" Battery Compartment | in mm | 80.1 | 2035 |
| | | | "B" Battery Compartment | in mm | 83.5 | 2120 |
| | | | "C" Battery Compartment | in mm | 89.2 | 2265 |
| | 21 | **Width Across Guide Roller** | .25" (6.35 mm) increments | | 1.25 – 8.75 (32 – 222) greater than OAW, Item 12 | |
| Performance | 22 | **Speed Travel, Max** | | mph km/h | See Travel Speed Chart | |
| | 23 | **Speed Lift** | Main Mast Empty / Loaded | fpm m/s | 95 / 80** | .48 / .41** |
| | | | Auxiliary Mast Empty / Loaded | fpm m/s | 80 / 80 | .41 / .41 |
| | 24 | **Speed Lower** | Main Mast Empty / Loaded | fpm m/s | 88 / 88 | .45 / .45 |
| | | | Auxiliary Mast Empty / Loaded | fpm m/s | 65 / 80 | .33 / .41 |
| | 25 | **Speed Pivot** | 180° Rotation | sec | 6 - 10 | |
| | 26 | **Speed Traverse** | | ips cm/s | 4 - 12 | 10 - 30 |
| | 27 | **Battery** | | | See Battery Chart | |
| | 28 | **Brakes** | Drive Unit Quantity | | 1 | |
| | | | Brake Type | | Mechanically Applied, Electrically Released | |

* 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).

| TN/TF Mast | | | | | | | Fork Spread | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 | **Outside Fork Spread** | **Load Handler** | | **Carriage Width** | | **Telescopic** | | **Non-Telescopic** | |
| | | 23" – 54" (585 – 1370) | in mm | 30 | 760 | 21.5 – 30 | 545 – 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 | | | | | *Imperial* | *Metric* |
|---|---|---|---|---|---|---|
| General Information | 1 | **Manufacturer** | | | **Crown Equipment Corporation** | |
| | 2 | **Model** | **TT Mast** | | **TSP 6500-33** | |
| | 3 | **Load Capacity, Max*** | 24" (610 mm) Load Center | lb kg | 3300 | 1500 |
| | 4 | **Power** | Electric | | 48 Volt | |
| | 5 | **Operator Type** | Sit / Stand Rider | | Turret Stockpicker | |
| | 6 | **Tire Type** | Load / Drive | | Poly / Vulkollan | |
| | 7 | **Wheels** | Load / Drive | | 2 / 1 | |
| | 8 | **Truck Weight** | Less Battery | lb kg | 14,500 – 18,700 | 6580 – 8395 |
| Dimensions | 9 | **Lift Height** | (LH) | | See Mast Chart | |
| | 10 | **Overall Collapsed Height** | (OACH) | | See Mast Chart | |
| | 11 | **Extended Height** | (EH) | | See Mast Chart | |
| | 12 | **Overall Width (Load Wheel)** | (OAW) 1" (25.4 mm) increments | | 48 – 83 | 1220 – 2110 |
| | 13 | **Platform Width** | | in mm | 48, 52, 58 | 1220, 1320, 1475 |
| | 14 | **Traverse Frame Width** | 48" (1220 mm) Platform (Pf) | in mm | 48, 49, 50, 51 | 1220, 1245, 1270, 1295 |
| | | | 52" (1320 mm) Pf | in mm | 52, 53, 54, 55, 56†, 57† | 1320, 1345, 1370, 1395, 1420†, 1450† |
| | | | 58" (1475 mm) Pf | in mm | 58, 59, 60, 61, 62†, 63† | 1475, 1500, 1525, 1550, 1575†, 1600† |
| | | | 64" (1625 mm) Pf †† | in mm | 64, 65, 66, 67, 68, 69 | 1625, 1650, 1675, 1700, 1725, 1750 |
| | 15 | **Fork Length** | Telescopic L x W x T | in mm | 36, 37.4, 42, 45.3, 48, 54 x 5.9 x 2.25 | 915, 950, 1070, 1150, 1220, 1370 x 150 x 56 |
| | | | Non-Telescopic L x W x T | in mm | 30, 36, 37.4, 42, 45.3, 48 x 4 x 1.75 | 760, 915, 950, 1070, 1150, 1220, x 100 x 45 |
| | 16 | **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 |
| | 17 | **Outside Fork Spread** | | | See Fork Spread Chart Below | |
| | 18 | **Overall Length (With 23", *585 mm* Load Handler)** | "AA"/ "A" Battery Compartment | in mm | 149.5 | 3800 |
| | | | "B" Battery Compartment | in mm | 152.9 | 3885 |
| | | | "C" Battery Compartment | in mm | 158.6 | 4030 |
| | 19 | **Headlength** | "AA"/ "A" Battery Compartment | in mm | 111.5 | 2835 |
| | | | "B" Battery Compartment | in mm | 114.9 | 2920 |
| | | | "C" Battery Compartment | in mm | 120.6 | 3065 |
| | 20 | **Wheelbase** | "AA"/ "A" Battery Compartment | in mm | 83.6 | 2125 |
| | | | "B" Battery Compartment | in mm | 87.0 | 2210 |
| | | | "C" Battery Compartment | in mm | 92.7 | 2355 |
| | 21 | **Width Across Guide Roller** | .25" (6.35 mm) increments | | 1.25 – 8.75 (32 – 222) greater than OAW, Item 12 | |
| Performance | 22 | **Speed Travel, Max** | | mph km/h | See Travel Speed Chart | |
| | 23 | **Speed Lift** | Main Mast Empty / Loaded | fpm m/s | 80 / 70 | .41 / .36 |
| | | | Auxiliary Mast Empty / Loaded | fpm m/s | 80 / 80 | .41 / .41 |
| | 24 | **Speed Lower** | Main Mast Empty / Loaded | fpm m/s | 88 / 88 | .45 / .45 |
| | | | Auxiliary Mast Empty / Loaded | fpm m/s | 65 / 80 | .33 / .41 |
| | 25 | **Speed Pivot** | 180° Rotation | sec | 6 - 10 | |
| | 26 | **Speed Traverse** | | ips cm/s | 4 - 12 | 10 - 30 |
| | 27 | **Battery** | | | See Battery Chart | |
| | 28 | **Brakes** | Drive Unit Quantity | | 1 | |
| | | | Brake Type | | Mechanically Applied, Electrically Released | |

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

| TT Mast | | | | | | | Fork Spread | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 | **Outside Fork Spread** | **Load Handler** | | **Carriage Width** | | **Telescopic** | | **Non-Telescopic** | |
| | | 23" – 54" (585 – 1370) | in mm | 30 | 760 | 21.5 – 30 | 545 – 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 |

## Mast Charts

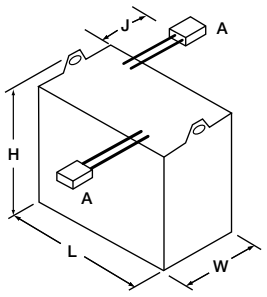
| 9 | | | | | | | | 10 | | | | 11 | | 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lift Height (LH)** | | **Free Lift TN*** | | **Free Lift TF**** | | **Free Lift TT**** | | **Overall Collapsed Height TN/TF** | | **Overall Collapsed Height TT** | | **Extended Height (EH)** | | **Minimum Overall Width** | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 193 | 4900 | 72 | 1825 | na | na | na | na | 118 | 3000 | na | na | 235 | 5970 | 48 | 1220 |
| 207 | 5255 | 72 | 1825 | 83 | 2105 | na | na | 125 | 3175 | na | na | 249 | 6325 | 48 | 1220 |
| 219 | 5560 | 72 | 1825 | 89 | 2260 | na | na | 131 | 3330 | na | na | 261 | 6630 | 48 | 1220 |
| 231 | 5865 | 72 | 1825 | 95 | 2410 | 73 | 1850 | 137 | 3480 | 115 | 2925 | 273 | 6935 | 48 | 1220 |
| 243 | 6170 | 72 | 1825 | 101 | 2565 | 77 | 1955 | 143 | 3635 | 119 | 3025 | 285 | 7240 | 48 | 1220 |
| 255 | 6475 | 72 | 1825 | 107 | 2715 | 81 | 2055 | 149 | 3785 | 123 | 3125 | 297 | 7545 | 48 | 1220 |
| 267 | 6780 | 72 | 1825 | 113 | 2870 | 85 | 2155 | 155 | 3940 | 127 | 3230 | 309 | 7850 | 48 | 1220 |
| 279 | 7085 | 72 | 1825 | 119 | 3020 | 89 | 2260 | 161 | 4090 | 131 | 3330 | 321 | 8155 | 48 | 1220 |
| 291 | 7390 | 72 | 1825 | 125 | 3175 | 93 | 2360 | 167 | 4245 | 135 | 3430 | 333 | 8460 | 48 | 1220 |
| 303 | 7695 | 72 | 1825 | 131 | 3325 | 97 | 2460 | 173 | 4395 | 139 | 3535 | 345 | 8765 | 48 | 1220 |
| 315 | 8000 | 72 | 1825 | 137 | 3475 | 101 | 2565 | 179 | 4550 | 143 | 3635 | 357 | 9070 | 48 | 1220 |
| 327 | 8305 | 72 | 1825 | 143 | 3630 | 105 | 2665 | 185 | 4700 | 147 | 3735 | 369 | 9375 | 48 | 1220 |
| 339 | 8610 | 72 | 1825 | 149 | 3780 | 109 | 2765 | 191 | 4855 | 151 | 3840 | 381 | 9680 | 48 | 1220 |
| 351 | 8915 | 72 | 1825 | 155 | 3935 | 113 | 2870 | 197 | 5005 | 155 | 3940 | 393 | 9985 | 48 | 1220 |
| 363 | 9220 | 72 | 1825 | 161 | 4085 | 117 | 2970 | 203 | 5160 | 159 | 4040 | 405 | 10,290 | 48 | 1220 |
| 375 | 9525 | 72 | 1825 | 167 | 4240 | 121 | 3070 | 209 | 5310 | 163 | 4140 | 417 | 10,595 | 48 | 1220 |
| 387 | 9830 | 72 | 1825 | 173 | 4390 | 125 | 3175 | 215 | 5465 | 167 | 4245 | 429 | 10,900 | 49 | 1245 |
| 399 | 10,135 | 72 | 1825 | 179 | 4545 | 129 | 3275 | 221 | 5615 | 171 | 4345 | 441 | 11,205 | 50 | 1270 |
| 411 | 10,435 | 72 | 1825 | 185 | 4695 | 133 | 3375 | 227 | 5770 | 175 | 4445 | 453 | 11,510 | 51 | 1295 |
| 423 | 10,740 | 72 | 1825 | 191 | 4850 | 137 | 3475 | 233 | 5920 | 179 | 4550 | 465 | 11,815 | 52 | 1320 |
| 435 | 11,045 | 72 | 1825 | 197 | 5000 | 141 | 3580 | 239 | 6075 | 183 | 4650 | 477 | 12,120 | 54 | 1370 |
| 447 | 11,350 | 72 | 1825 | 203 | 5155 | 145 | 3680 | 245 | 6225 | 187 | 4750 | 489 | 12,425 | 55 | 1395 |
| 459 | 11,655 | 72 | 1825 | 209 | 5305 | 149 | 3780 | 251 | 6380 | 191 | 4855 | 501 | 12,730 | 56 | 1420 |
| 471 | 11,960 | 72 | 1825 | | | 153 | 3885 | 257 | 6530 | 195 | 4955 | 513 | 13,035 | 58 | 1475 |
| 483 | 12,265 | 72 | 1825 | | | 157 | 3985 | 263 | 6685 | 199 | 5055 | 525 | 13,335 | 59 | 1500 |
| 495 | 12,570 | 72 | 1825 | | | 161 | 4085 | 269 | 6835 | 203 | 5160 | 537 | 13,640 | 61 | 1550 |
| 507 | 12,875 | | | | | 165 | 4190 | | | 207 | 5260 | 549 | 13,945 | 61 | 1550 |
| 519 | 13,180 | | | | | 169 | 4290 | | | 211 | 5360 | 561 | 14,250 | 62 | 1575 |
| 531 | 13,485 | | | | | 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 Speeds** | **Seat Position** | | **Maximum Speed*** | | | |
|---|---|---|---|---|---|---|
| | | | Empty | | Loaded | |
| Forks First | Any Position | mph kmph | 6.5 | 10.4 | 6.0 | 9.6 |
| Power Unit First | Side Facing / Forward Facing | mph kmph | 7.5 / 6.0 | 12 / 9.6 | 7.0 / 6.0 | 11.2 / 9.6 |

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

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) |

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.



**Standard Equipment**

1. TN Mast - No Free Lift in main mast but 69" (1750 mm) of free lift in auxiliary mast
2. 48-volt fused electrical system
3. AC lift and traction motors
4. Regenerative lowering system
5. Access 1 2 3® Comprehensive System Control
   - Fully interactive, four-line display
   - Battery discharge indicator with lift interrupt
   - Capacity Monitor
   - Start-up and run time diagnostics
   - Diagnostic history storage
   - Hour meters include traction motor, hydraulic motor, steer motor, and run time (increments if any of previous three are active).
   - Programmable speed curves and top travel speeds
   - Linear speed control for gradual reduction in speed as platform is raised
   - Programmable lift/lower cutouts with overrides
6. Intelligent Braking System combines the optimum amount of friction and motor braking
7. Intelligent Steering System slows the travel speed when in a turn and provides smooth, electronic steering
8. MoveControl® Seat
   - Fully integrated right and 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
9. MonoLift® Mast for superior rigidity at height and maximum visibility
10. Heavy-duty power unit
    - Easily removable steel doors and covers
    - Top battery access
    - Flashing light
    - Removable steer wheel cover
    - Manual lowering valve release located in power unit
    - 2-3/4" (70 mm) diameter battery rollers
    - SB 350 battery connector
    - Color-coded wiring
    - Vulkollan® Drive Tire
11. Heavy-duty platform
    - Sturdy front rail and hinged side gates
    - Smooth and blended control of travel, raise/lower, traverse and pivot
    - MoveControl® Seat
    - Premium floor mat
    - Two-speed operator fan
    - Dual, overhead LED dome lights
    - Dual, adjustable, overhead LED work lights
    - Adjustable rear view mirror
    - Shock absorbing tether and body harness
    - Key switch
    - Horn
    - 12-volt accessory outlet
    - Multiple storage bins
    - Partial overhead plexiglass shield
12. InfoPoint® Quick Reference Guide and Maps

**Optional Equipment**

1. Wire and/or rail guidance
2. End-of-aisle control system
3. TF mast for full free lift or three stage mast (TT) for superior collapsed heights and full free lift
4. Power unit/Main frame
   - "AA", "A", "B" or "C" batteries
   - Stabilizer bars for wire guided trucks ≤ 531" (13,485 mm)
   - Selectable overall width (OAW), in 1" (25 mm) increments
   - Non-marking load wheels
   - Various strobe lights
   - Battery retainer switch
5. Platform
   - Extended load handler lengths and carriage widths
   - Telescopic or non-telescopic forks
   - Tilting fork carriage (non-telescopic forks only)
   - Power source and mounting brackets for WMS terminal
   - Fire extinguisher
   - Narrow front rail
   - Zone select key switch
6. Environmental packages
   - EE
   - Freezer conditioning
   - Enclosed cabin – heated
7. Work Assist® Accessories
   - Second fan
   - Second set of LED work lights
   - Clip pad and hook
   - Plate (for RF mount)
   - Adjustable arm mounting system
8. InfoLink® Ready System
9. InfoLink for Windows® Ready System

### 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 Access 1 2 3® Comprehensive System Control. Each of the eight microprocessor controlled 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 pivot 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 and pivot. 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 and two LED work lights that are located in the overhead guard. Other Work Assist Accessories can also be mounted to the vertical Work Assist tube, or either of the tubes built into the overhead guard. Multiple storage compartments provide abundant room for personal items and tools.

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 also 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.

### Display
The four-line, alphanumeric display (Access 1) is conveniently mounted on the left upright for easy access. In addition to providing a full diagnostic and calibration interface, the display is capable of continuously displaying:

- Current event codes
- Battery discharge indication
- Steer wheel position
- On/off wire status
- Capacity Monitor
- Fork height
- Load weight
- Time of day and date

Interactive buttons, mounted to the face of the display, can be used to interrogate the truck or adjust parameters. State of the art diagnostics are standard equipment. Every sensor can be monitored in real time through the display and many of the output drivers can be tested as well. Menu structures are shared with other Crown Models, so technicians will quickly find their way around.

### 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.

### MonoLift® Mast
Elevated load sway and side bowing are minimized through the use of a closed cross-section 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, cable and chain 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.

### Access1 2 3®
The Access 1 2 3 Comprehensive 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 eight modules are in constant communications with each other via a CAN (Control Area Network) bus so that real time information is accessible to the system at all times.

- Access 1
  Interactive Display Module
- Access 2
  Hydraulic Control Module
- Access 3
  Traction Control Module
- Access 4
  Vehicle Control Module
- Access 5
  Steering Control Module
- Access 6
  Guidance Control Module
- Access 7
  Accessory Control Module
- Access 8
  Operator Control Module

### Simplifed 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.

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

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.

### Intelligent Braking
The patented 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 electronic steering provides smooth and easy maneuvering for the operator. Top travel speed of the truck is decreased when the steer wheel is greater than ten degrees. Further speed reductions occur as the amount of steering is increased. This intelligent approach provides a maximum degree of safety and comfort for the operator.

### Load Handler
The fork carriage pivots (turrets) 180º 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. Forks 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 removable covers. Vertical side alignment of the auxiliary mast is maintained by rack and pinion gears.

### Wheels and Tires
Large, high-load capacity polyurethane press-on load wheels are 14" (355 mm) diameter x 8" (205 mm) wide. The Vulkollan® 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.

### 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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**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.**


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