

# WALKIE STRADDLE STACKER



Up to 4000 LBS.

SPECIFICATIONS



WS1-HD22-40

CLASS  
**3**

ELECTRIC PALLET JACKS | STACKERS | TOW TRACTORS

[ToyotaForklift.com](http://ToyotaForklift.com)

# WALKIE STRADDLE STACKER

CAPACITY  
**2200 - 4000 LBS.**

WHEELBASE  
**50.8-55.1**

LOAD CENTER  
**24 IN.**

## INDUSTRIES



General  
Manufacturing



General  
Warehousing



Cold Storage



Food Storage



Beverage



Retail

## STANDARD FEATURES

### PERFORMANCE

- 24 Volt Electrical System
- SB-175 Red Connector
- On/Off Key Switch
- UL Type-E Constructed
- Electric Raise And Lower Controls In Operator Handle
- AC Drive Motor
- Cushioned Mast Stops

### BODY/EXTERIOR DESIGN

- Electric Horn
- 30 Inch Wide ITA Class II Hook Type Carriage
- 42 Inch Long Pallet Forks
- 48 Inch High Load Back Rest Extension
- Rubber Drive Tire
- Tandem Polyurethane Load Wheels 4" dia. x 2.875"
- Battery Compartment: 32.13" x 9.13" x Open Height (Steel-to-Steel)<sup>1</sup>
- Battery Compartment: 32.13" x 13.38" x Open Height (Steel-to-Steel)<sup>2</sup>
- 32" to 50" Base Leg Openings in 1" increments
- Easy Access Service Cover
- Fixed Baselegs

### OPERABILITY & ERGONOMICS

- Emergency Power Disconnect Switch
- Battery Discharge Indicator w/ Lift Interrupt and Hour Meter
- Regenerative Plugging
- Ergonomically Advanced Control Handle
- Polycarbonate Mast Guard
- Dual Thumb Wheel Control Forward and Reverse
- Direction and Travel Speed
- Power On Self Test

<sup>1</sup> Only available on WS1-HD22

<sup>2</sup> Only available on WS1-HD30.40

Please contact your local, authorized Toyota Dealer for a complete list of available options.

## OPTIONAL EQUIPMENT

### LOAD HANDLING

- Fork Length, 30"
- Fork Length, 36"
- Fork Length, 48"
- Sideshift Carriage
- 36" Reduced Height Load Backrest Extension
- 44" Reduced Height Load Backrest Extension
- Power Steering
- Greasable Steer Bearing

### LIGHTS, INDICATORS & SAFETY

- Screen Guard In Place Of Safety Glass Mast Guard
- Red Flashing Light
- Amber Flashing Light
- Blue Flashing Light
- Electronic Travel Alarm (Forward & Reverse)
- Electronic Travel Alarm (Forward Only)
- Electronic Travel Alarm (Reverse Only)
- Non-Rubber Static Strap

### BODY

- Battery Compartment Rollers with Dual Sidegates
- Pallet Centering Guide
- Magnetic Storage Tray<sup>2</sup>
- Storage Tray, Battery Compartment Mounted
- Large Magnetic Storage Tray, Battery Compartment Mounted
- Battery Gate Interlock
- Single Tier Accessory Bar
- LED Work Light
- Operator Fan
- Power Hook-Up Onboard Terminal (10 Ah)
- Non-Powered Accessory Bar
- Electronic PIN Code Pad
- Keyless On/Off Switch in lieu of Key Switch

### BATTERY ACCESSORIES

- Non - Standard Battery Connector (Color Yellow)
- Non - Standard Battery Connector (Color Gray)
- Non - Standard Battery Connector (Color Blue)
- Toyota LiB ESS Tag
- CAN-COM and ESS Tag for Toyota LiB

### WHEELS & TIRES

- Drive Tire Crowned Poly
- Drive Tire Non-Marking Rubber White
- Drive Tire Poly
- Drive Tire Poly Razor Sipe
- Drive Tire "Smoothy" Poly
- Drive Tire Dyalon B Poly
- Drive Tire Poly Center Groove
- Drive Tire Diamond

### SPECIAL MODELS

- UL Type "E"
- UL Type "EE"
- Bilingual Decals
- Export Preparation Package
- Corrosion Conditioning
- Cold Storage Conditioning (Includes Corrosion Protection Conditioning)
- Aux. Hydraulic Function Valve & Hosing W/ Carriage Mounted Termination

<sup>1</sup> Not available with WS1-HD22  
<sup>2</sup> Only available with WS1-HD22

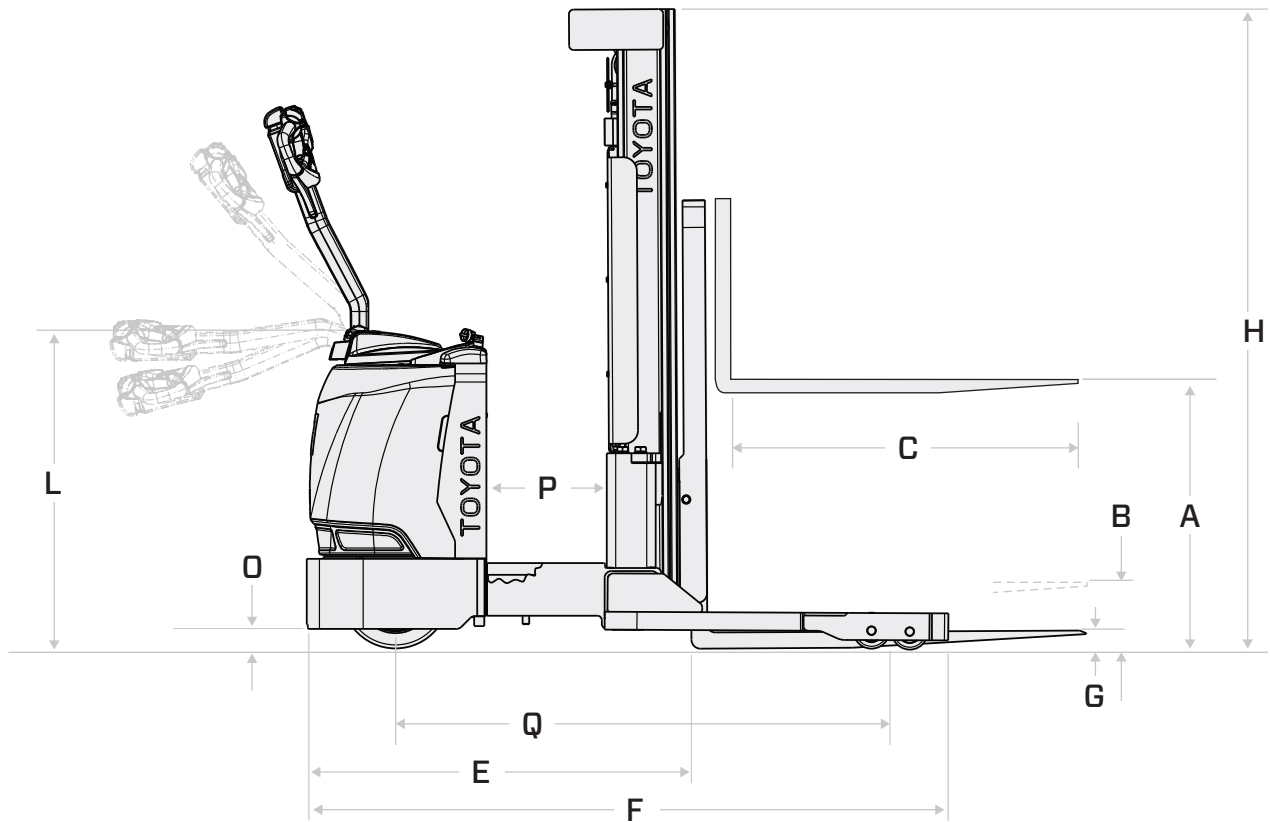
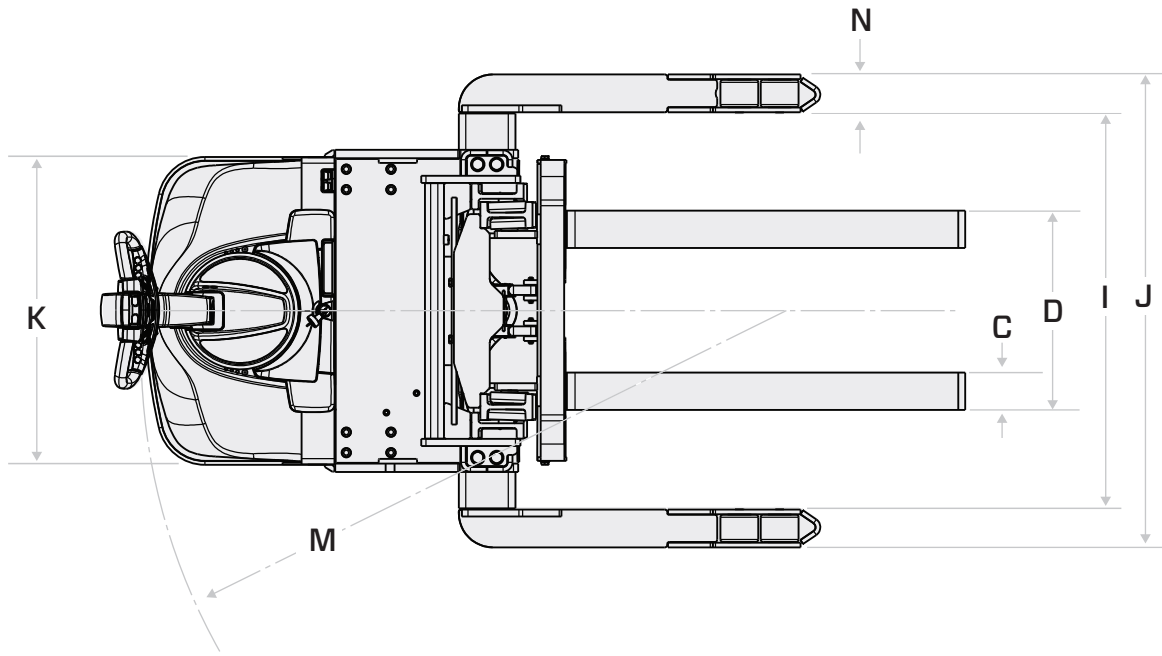
## TRUCK SPECIFICATIONS

GENERAL DATA				MODEL NUMBERS		
				WS1-HD22	WS1-HD30	WS1-HD40
Load Capacity	lb (kg)			2200 (998)	3000 (1361)	4000 (1814)
Load Center	in (mm)			24 (600)	24 (600)	24 (600)
Power Type				Battery	Battery	Battery
Operator Position				Walkie	Walkie	Walkie
Tire Type	Drive / Caster / Load			Rubber/Polyurethane	Rubber/Polyurethane	Rubber/Polyurethane
Wheels (x = driven)	Drive / Caster / Load			1x / 2 / 4	1x / 2 / 4	1x / 2 / 4
EXTERIOR DIMENSIONS				WS1-HD22	WS1-HD30	WS1-HD40
<b>A</b>	Maximum Fork Height (MFH)	in (mm)		150 (3810)	189 (4800)	189 (4800)
<b>B</b>	Free Lift <sup>3</sup>	in (mm)		6 (153)	6 (153)	6 (153)
<b>C</b>	Fork Size (T x W x L)	in (mm)		1.5 x 4 x 42 (40 x 100 x 1067)	1.5 x 4 x 42 (40 x 100 x 1067)	1.5 x 4 x 42 (40 x 100 x 1067)
<b>D</b>	Fork Adjustment (Minimum/Maximum)	in (mm)		10 (254) / 31 (787)	10 (254) / 31 (787)	10 (254) / 31 (787)
<b>E</b>	Head Length (Length to Fork Face)	in (mm)		40 (1016)	44.4 (1128)	44.4 (1128)
<b>F</b>	Truck Length (Length to end of Base Legs)			67.3 (1709)	71.4 (1814)	71.4 (1814)
<b>G</b>	Fork Lowered Height	in (mm)		2 (51)	2 (51)	2 (51)
<b>H</b>	Mast Lowered Height	in (mm)		95 (2413)	87 (2210)	87 (2210)
<b>I</b>	Base Leg Inside Dimension (ID) - 1" increments	in (mm)		32 to 50 (813 to 1270)	32 to 50 (813 to 1270)	32 to 50 (813 to 1270)
<b>J</b>	Base Leg Outside Dimension (OD) - 1" increments	in (mm)		40 to 58 (1016 to 1473)	40 to 58 (1016 to 1473)	40 to 58 (1016 to 1473)
<b>K</b>	Power Unit Width	in (mm)		32.5 (826)	32.5 (826)	32.5 (826)
<b>L</b>	Power Unit Height	in (mm)		34 (864)	34 (864)	34 (864)
<b>M</b>	Turning Radius	in (mm)		60.7 (1542)	64.9 (1648)	64.9 (1648)
<b>N</b>	Base Leg Width	in (mm)		4 (101)	4 (101)	4 (101)
<b>O</b>	Underclearance Center of Wheelbase	in (mm)		2.1 (53)	2.1 (53)	2.1 (53)
<b>P</b>	Battery Compartment <sup>1</sup> (L x W x open height)	in (mm)		32.13 x 9.13 (816 x 232)	32.13 x 13.38 (816 x 340)	32.13 x 13.38 (816 x 340)
<b>Q</b>	Wheelbase	in (mm)		50.8 (1290)	55.1 (1400)	55.1 (1400)
	Mast Extended Height	in (mm)		198 (5030)	237 (6020)	238 (6020)
	Fork Carriage Width (ITA Hook-Type)	in (mm)		30 (762)	30 (762)	30 (762)
	Sideshift, Optional (Each Way) <sup>5</sup>	in (mm)		2 or 3 (51 or 76)	2 or 3 (51 or 76)	2 or 3 (51 or 76)
	Basic Right Angle Stacking Aisle Width <sup>1</sup>			See Chart	See Chart	See Chart
PERFORMANCE DATA				WS1-HD22	WS1-HD30	WS1-HD40
Speeds <sup>4</sup>	Maximum Travel	Full Load	mph (km/h)	3.5 (5.6)	3.5 (5.6)	3.5 (5.6)
		No Load	mph (km/h)	3.5 (5.6)	3.5 (5.6)	3.5 (5.6)
	Lifting	Full Load	fpm (mm/sec)	37 (188)	32 (163)	27 (137)
		No Load	fpm (mm/sec)	49 (249)	49 (249)	49 (249)
	Lowering	Full Load	fpm (mm/sec)	60 (305)	60 (305)	60 (305)
		No Load	fpm (mm/sec)	42 (213)	42 (213)	42 (213)
Gradeability <sup>2</sup>	Loaded / Unloaded	%	6 / 10	6 / 10	6 / 10	
TRUCK WEIGHTS				WS1-HD22	WS1-HD30	WS1-HD40
Total Weight Without Battery	lb (kg)			2592 (1176) - 3019 (1369)	2643 (1199) - 3294 (1494)	2661 (1207) - 3312 (1502)
TIRES				WS1-HD22	WS1-HD30	WS1-HD40
Tire Size (dia. x width)	Drive	in (mm)		12 x 4.5 (305 x 114)	12 x 4.5 (305 x 114)	12 x 4.5 (305 x 114)
	Caster	in (mm)		4 x 2.5 (102 x 64)	4 x 2.5 (102 x 64)	4 x 2.5 (102 x 64)
	Load	in (mm)		4 x 2.875 (102 x 73)	4 x 2.875 (102 x 73)	4 x 2.875 (102 x 73)
Brake				Regenerative	Regenerative	Regenerative
POWER SYSTEM				WS1-HD22	WS1-HD30	WS1-HD40
Battery (6-hour rating)	Voltage / Capacity (maximum)	hp (kW)		24 (654)	24 (654)	24 (654)
	Weight (minimum)	lb (kg)		300 (136)	950 (431)	950 (431)

1 Please refer to the Aisle Width Requirements for Right Angle Stacking charts.  
 2 Trucks are designed for level floor operation. Represents ability to transverse short ramps when required.  
 3 Tolerance = +/- 1in. (+/-25.4mm). For FSV mast, freelifit will be 23 in (584 mm) to 39 in (991 mm) depending on mast chosen.

4 Maximum speed attainable, after break-in period, varies with truck weight, rolling resistance, mast height, options, and battery condition.  
 5 32 in. and 33 in. baseleg BLD have 2 in. each way. All other baseleg BLD have 3 in. each way. Not available on WS1-HDN22 or WS1-HDN30 trucks.

# EXTERIOR DIMENSIONS



## MAST SPECIFICATIONS

MAST TYPE	MAXIMUM FORK HEIGHT (TOP OF FORKS)	OVERALL HEIGHT		FREE-LIFT <sup>3</sup>	TRUCK WEIGHT WITHOUT BATTERY <sup>4</sup>
		LOWERED <sup>1</sup>	EXTENDED <sup>2</sup>	WITH STANDARD LOAD BACKREST	
			WITH STANDARD LOAD BACKREST		
in (mm)		in (mm)	in (mm)	in (mm)	
<b>WS1-HD22</b>					
Wide Visible (V)	100 (2540)	71 (1804)	148 (3760)	6 (153)	2,592 (1176)
	124 (3149)	83 (2109)	172 (4369)	6 (153)	2,702 (1226)
	150 (3810)	95 (2413)	198 (5030)	6 (153)	2,812 (1275)
Full Free-Lift 3-Stage (FSV)	150 (3810)	71 (1804)	198 (5030)	23 (584)	3,019 (1369)

MAST TYPE	MAXIMUM FORK HEIGHT (TOP OF FORKS)	OVERALL HEIGHT		FREE-LIFT <sup>3</sup>	TRUCK WEIGHT WITHOUT BATTERY <sup>4</sup>
		LOWERED <sup>1</sup>	EXTENDED <sup>2</sup>	WITH STANDARD LOAD BACKREST	
			WITH STANDARD LOAD BACKREST		
in (mm)		in (mm)	in (mm)	in (mm)	
<b>WS1-HD30</b>					
Wide Visible (V)	100 (2540)	71 (1804)	148 (3760)	6 (153)	2,643 (1199)
	124 (3149)	83 (2109)	172 (4369)	6 (153)	2,753 (1249)
	150 (3810)	95 (2413)	198 (5030)	6 (153)	2,863 (1299)
Full Free-Lift 3-Stage (FSV)	150 (3810)	71 (1804)	198 (5030)	23 (584)	3,070 (1393)
	180 (4572)	83 (2109)	228 (5792)	35 (889)	3,238 (1469)
	189 (4800)	87 (2210)	237 (6020)	39 (991)	3,294 (1494)

MAST TYPE	MAXIMUM FORK HEIGHT (TOP OF FORKS)	OVERALL HEIGHT		FREE-LIFT <sup>3</sup>	TRUCK WEIGHT WITHOUT BATTERY <sup>4</sup>
		LOWERED <sup>1</sup>	EXTENDED <sup>2</sup>	WITH STANDARD LOAD BACKREST	
			WITH STANDARD LOAD BACKREST		
in (mm)		in (mm)	in (mm)	in (mm)	
<b>WS1-HD40</b>					
Wide Visible (V)	100 (2540)	71 (1804)	148 (3760)	6 (153)	2,661 (1207)
	124 (3149)	83 (2109)	172 (4369)	6 (153)	2,771 (1257)
	128 (3251)	85 (2159)	176 (4470)	6 (153)	2,789 (1265)
	150 (3810)	95 (2413)	198 (5030)	6 (153)	2,880 (1307)
Full Free-Lift 3-Stage (FSV)	150 (3810)	71 (1804)	198 (5030)	23 (584)	3,088 (1401)
	180 (4572)	83 (2109)	228 (5792)	35 (889)	3,256 (1477)
	189 (4800)	87 (2210)	237 (6020)	39 (991)	3,312 (1502)

1 Tolerance = +/-0.5 in. (+/-13mm).  
 2 Tolerance = +2.5/-0.5 in. (+64/-13 mm).  
 3 Tolerance = +/-1 in. (+/-25.4 mm).  
 4 Add 100 lb. (45.4 kg) with sideshift option.

## RIGHT-ANGLE STACKING AISLE REQUIREMENTS

LOAD WIDTH	WS1-HDN22 <sup>1</sup>		WS1-HDN30 <sup>1</sup>		WS1-HDN40 <sup>1</sup>	
	LOAD LENGTH					
	42 (1067)	48 (1219)	42 (1067)	48 (1219)	42 (1067)	48 (1219)
in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	in (mm)	
30 (762)	76 (1930)	84 (2134)	81 (2057)	88 (2235)	81 (2057)	88 (2235)
32 (813)	76 (1930)	83 (2108)	80 (2032)	88 (2235)	80 (2032)	88 (2235)
36 (914)	75 (1905)	83 (2108)	79 (2007)	87 (2210)	79 (2007)	87 (2210)
40 (1016)	74 (1880)	82 (2083)	79 (2007)	87 (2210)	79 (2007)	87 (2210)
42 (1067)	74 (1880)	82 (2083)	78 (1981)	87 (2210)	78 (1981)	87 (2210)
48 (1219)	72 (1829)	81 (2057)	77 (1956)	86 (2184)	77 (1956)	86 (2184)

Aisle width requirements are based on 6" (152 mm) clearance between each side of the load.  
 Add a minimum of 6" to 10" (152 to 254 mm) for maneuverability.  
 Add a minimum of 3" to 6" (76 to 152 mm) for 3-stage mast.  
 Add 2.5" (64 mm) when equipped with sideshift carriage.  
 1 Add 3 to 6 in. (76 to 153mm) for 3-stage mast



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“THE NAME ON MY SHIRT  
SAYS TOYOTA,  
BUT I WORK  
FOR YOU.”

Alan – 360 Technician, Atlas Toyota Material Handling, Chicago, IL



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