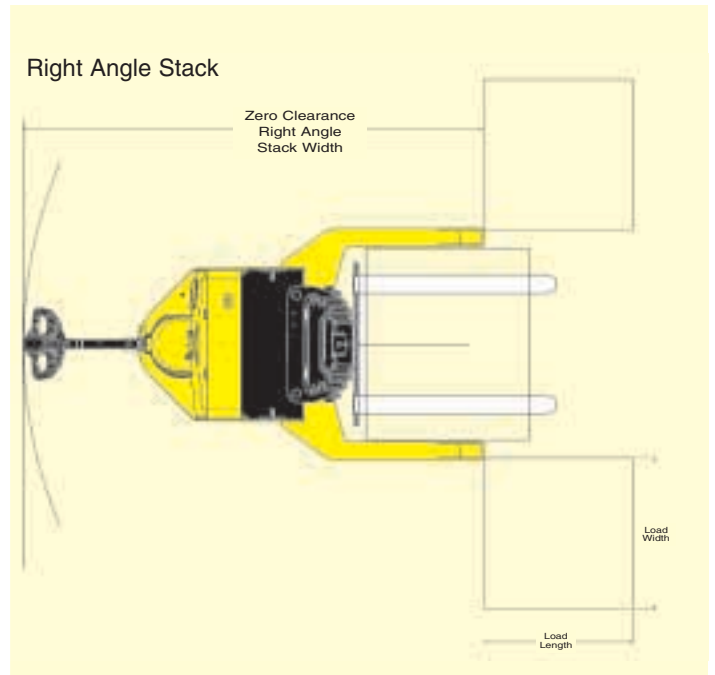
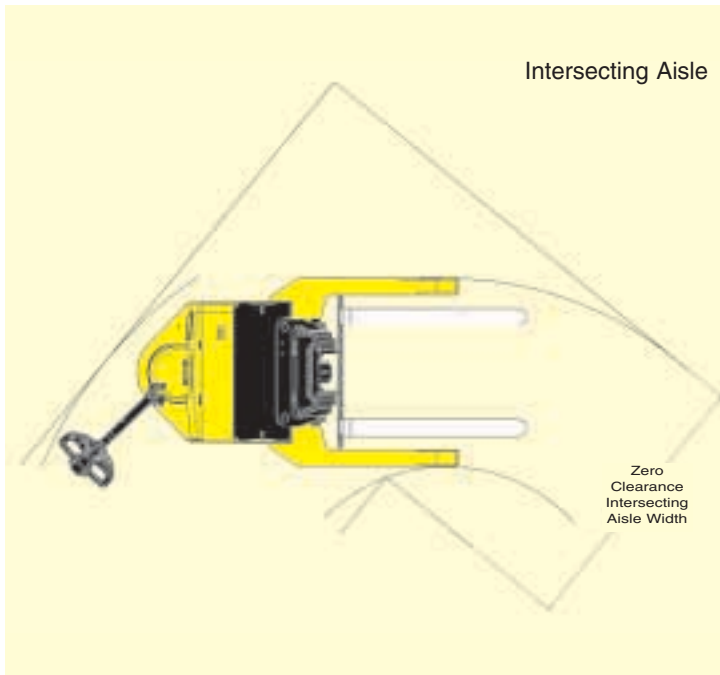


		GENERAL		Yale		Yale	
		Manufacturer	Manufacturer Name	MSW030-E	MSW040-E		
2		Model	Manufacturer Designation	MSW030-E	MSW040-E		
3		Capacity	Rated capacity	3000 (1360)	4000 (1820)		
4		Load Center	Distance	24 (610)	24 (610)		
5		Power Type	Gasoline, LPG, Diesel, Electric	Electric	Electric		
6		Operator Type	Pedestrian, Stand-on, Seated Rider	Pedestrian	Pedestrian		
8		Tire Type	Cushion, Solid, Pneumatic, etc.	Cushion	Cushion		
9		Wheels	Number - Drive / Load	1/2	1/2		
DIMENSIONS		10	Lift Height (Top of Fork)	126 (3200.4)	122 (3098)		
		11	Standard Free Lift (Top of Fork)	6 (152.4)	6 (152.4)		
		12	Maximum Carriage Width	33.8 (857.3)	33.8 (857.3)		
		13	Forks	Thickness/Width/Length	1.5 x 4.0 x 42	1.5 x 4.0 x 42	
		14	Fork Spread	Outside Dimension - Max	30.4 (772.2)	30.4 (772.2)	
		15	Tilt of Mast	Forward/Backward	0	0	
				Length To Face of Forks 9" Comp	44 (1118)	44 (1118)	
				Length To Face of Forks 13.5" Comp	48 (1219)	48 (1219)	
		17	Overall Dimensions	Outrigger ID	43 (1092.2)	43 (1092.2)	
		18		Lowered Overall Height (LOH)	83 (2108.2)	83 (2108.2)	
		19		Maximum Fork Height (MFH)	126 (3200.4)	122 (3098)	
		21	Turning Radius	Minimum (Outside) - With 48"L Load	73.3 (1861)	73.3 (1861)	
		22	Right Angle Stack		See Chart	See Chart	
		23	Intersecting Aisle		See Chart	See Chart	
		24	Stability	Comply with ANSI?	Yes	Yes	
PERFORMANCE		25	Speeds	Travel Speed Max - With load	3.4 (5.5)	3.2 (5.1)	
				No load	3.6 (5.8)	3.6 (5.8)	
				Lift Speed - With load	18.6 (.09)	18.6 (.09)	
				No load	27.5 (.14)	27.5 (.14)	
				Lowering Speed - With load	62.0 (.31)	62.0 (.31)	
				No load	52.5 (.27)	52.5 (.27)	
WEIGHT		29	Gradeability	%	10	10	
		31	Unloaded Weight	Standard Truck Without Battery	2458 (1115)	2458 (1115)	
WHEELS AND TIRES		32	Axle Loads	No Load With Min Battery – Drive/Load	1735 (787) / 1323 (620)	1735 (787) / 1323 (620)	
		33	Tire Size	Number - Drive/Load	1/2	1/2	
				Drive Tire	10" x 5" Poly	10" x 5" Poly	
		34	Load Wheels	4.0" x 2.8" Poly	4.0" x 2.8" Poly		
		35	Wheelbase	Distance (9.0" Compartment)	59 (1499)	59 (1499)	
				Distance (13.5" Compartment)	64 (1626)	64 (1626)	
		37	Ground Clearance	No Load at Lowest Point	0.50 (12.5)	0.50 (12.5)	
No Load at Center of Wheelbase	2.00 (51.5)			2.00 (51.5)			
BATTERY		41	Battery	Voltage	24	24	
		42	Type	Lead Acid	Lead Acid		
		43	Amphere Hours (Max)	510	510		
		43	Minimum Weight	400 (182)	600 (272)		
MOTORS		45	Electric Motors	Traction Motor - 60 Min Rating	2.3 (1.7)	2.3 (1.7)	
		Pump Motor - 15 min Rating		4.0 (3.0)	4.0 (3.0)		
		46	Traction Motor Control Method	Transistor	Transistor		
		47	Number of Speeds	Infinitely Variable	Infinitely Variable		
		48	Relief Press		2900	2900	
49		Grade Clearance	% Clearance 9.0" Comp	%	13.9	13.9	
			% Clearance 13.5" Comp	%	12.8	12.8	



Intersecting Aisle Layout
3,000 — 4,000 Lbs. Capacity Straddle Stackers

Load Width	9" Battery Well				13.5" Battery Well				
	30	36	40	48	36	40	48	70	
36	62	64	65	67	36	65	69	68	70
40	65	66	68	70	40	68	72	71	73
48	68	69	71	73	48	71	72	74	76

Note: It is recommended to add a minimum 6"-12" for clearance.

Right Angle Stack
3,000 — 4,000 Lbs. Capacity Straddle Stackers

Load Width	9" Battery Well				13.5" Battery Well				
	30	36	40	48	36	40	48	88	
36	76	78	81	88	36	80	82	85	92
40	76	78	81	84	40	80	82	85	88
48	76	78	81	84	48	80	82	85	88

Note: It is recommended to add a minimum 6"-12" for clearance and stacking. Zero Clearance Right Angle Stack is based on:

- Load on floor
- 6" between loads
- Truck ID is based on load width
- Straddle length may change with load length

Standard Specifications
3,000 – 4,000 Lbs. Capacity Straddle Stackers

Load Width	Outtrigger ID	O.A.W	Load Length	Fork Length	Wheelbase		O.A.L. *		Length to Face of Forks	
					9"	13.5"	9"	13.5"	9"	13.5"
36	37	45	30-32	36	51	56	80	84	44	48
36	37	45	34-36	36	53	58	80	84	44	48
40	43	51	38-42	42	56	61	86	90	44	48
48	49	57	44-48	48	59	64	92	96	44	48

Note: 9" and 13.5" references battery well
* For Triplex Mast add 2"

Battery and Compartment Specifications
3,000 – 4,000 Lbs. Capacity Straddle Stackers

No. of Cells	Cell Size	Plates per Cell	Capacity Amp-Hours	KWH	"X" Dim.	"Y" Dim.	"Z" Dim.	Weight
12	75	7	225	5.2	25.6	8.8	23.3	536 lbs.
12	85	7	255	6.0	25.5	8.6	23.3	590 lbs.
12	75	11	375	8.7	26.5	13.0	23.3	825 lbs.
12	85	11	425	9.9	26.1	12.8	23.3	865 lbs.
12	75	13	450	10.5	30.9	13.0	23.3	987 lbs.
12	85	13	510	11.9	30.9	13.0	23.3	1035 lbs.

Notes: 1) Steel tray with cover required for all batteries, 2) Battery connector type 175 Red (Gray is optional), 3) Cable lead position "B", 4) 20" cable length, 5) Maximum cable gauge of 1/0 6) Battery well: 33" x 9" x open - small / 33" x 13.5" x open - standard

Standard Lift Specifications
3,000 – 4,000 Lbs. Capacity Straddle Stackers

For other available mast heights – contact your Yale Dealer

Lowered Overall Height	Lift Height	Free Lift	Extended Height
MSW030-E SIMPLEX MASTS			
72 (1829)	104 (2642)	6 (152)	152 (3861)
77 (1956)	114 (2896)		162 (4115)
83 (2108)	126 (3200)		174 (4420)
92 (2337)	144 (3658)		192 (4877)
MSW030-E TRIPLEX MASTS			
72 (1829)	157 (3988)	50 (1270)	205 (5207)
77 (1956)	172 (4369)	55 (1397)	220 (5588)
83 (2108)	190 (4826)	61 (1549)	238 (6045)
MSW040-E SIMPLEX MASTS			
72 (1829)	100 (2540)	6 (152)	148 (4775)
77 (1956)	110 (2794)		158 (4013)
83 (2108)	122 (3099)		170 (4318)
87 (2210)	130 (3302)		178 (4521)
92 (2337)	140 (3556)		188 (4775)
MSW040-E TRIPLEX MASTS			
72 (1829)	153 (3886)	48 (1219)	201 (5105)
77 (1956)	168 (4267)	53 (1346)	216 (5486)
83 (2108)	186 (4724)	59 (1499)	234 (5944)

(Continued from front page)

protection. The innovative gear box design incorporates maintenance-free steer bearings, a stationary mounted traction motor, integrated motor pinion, and drive axle string guard. The maintenance-free steer bearings are sealed within the gearbox housing and lubricated by the gear oil. The stationary traction motor eliminates power cable tension and flex. The integral pinion and support bearings optimize the gear mesh resulting in a quieter gearbox. The splined coupling allows for quick removal and installation of the traction motor. The drive axle string guard minimizes axle seal damage from shrink-wrap, banding, etc.

The electronically released, mechanically applied brake is on top of the traction motor for ease of inspection and maintenance. The brake is controlled by a handle position switch which prevents the truck from moving when the tiller handle is fully raised or fully lowered.

Hydraulic Components

The high performance hydraulic system is designed for high cycle, multi-shift operations. The hydraulic power pack features a series wound motor and translucent hydraulic tank. The series wound motor provides high torque, low noise and is easily serviceable. The translucent tank provides quick and easy inspection of hydraulic oil level. Fully proportional lift/lower controls provide smooth operation while reducing noise levels.

Mast, Carriage and Forks

The Yale mast is available in simplex and triplex configurations for various heights. Yale Hi-Vis triplex masts provide outstanding visibility through the mast assembly. Mast is constructed of widespread outer channels and nested inner sections. Mast channels are specially rolled fine-grain steel. Wrap around cross-member and cross-braces provide added support for channels. Roller pressures are minimized through use of widely spaced shimless load rollers. Side-thrust adjustment is accomplished without special tools or mast disassembly. The simplex mast has a single-acting Yale-made hoist cylinder

mounted between mast channels. Triplex masts employ two hoist cylinders mounted behind mast channels, and a third free-lift cylinder for steady lifting. Hoist cylinder rods are hard-chrome plated for durability. Cylinders are mounted on floating mounts that help prevent cylinder wear. Lowering speeds are controlled by a valve in the manifold block. Controlled descent is assured by velocity fuses in each cylinder base. Hook-type carriage readily accepts attachments. Forks are heat treated, forged steel with increased thickness in critical heel section.

Wheels and tires

The standard load wheel configuration is a single load wheel with two roller bearings. A "knock-out" axle provides for quick and easy maintenance. The load wheel compound is 92 durometer polyurethane molded over a steel wheel and measures 4" X 2.8".

A 10" X 5" diameter polyurethane drive tire is standard. The drive wheel is secured to the axle with 5 bolts.

Additional Features

- Lubrication – Fill and drain plugs are provided
- All frame lubricating points are equipped with high pressure grease fittings
- Battery connector – Standard is red 175 amp connector
- Standard equipment includes key switch and an electronic horn
- 48" load backrest is standard

Options

- Multi-function display with BDI, hour meter and fault light
- Cold storage/freezer package to -15° F
- Sideshifter (2" each side of center)
- Various mast heights
- Lexan mast shield
- Creep speed control
- Various fork lengths
- Keyless toggle ignition switch
- 4" X 2.8" tandem load wheels
- Battery rollers (11.4" from floor to top of rollers)
- Optional batteries

Truck performance may be affected by the condition of the vehicle, how it is equipped, and the application. Consult your Yale Industrial Truck Dealer if any of the information shown is critical to your application. Specifications are subject to change without notice.

This truck meets all design specifications of ANSI B56.1 Safety Standard for Powered Industrial Trucks at the time of manufacture. Classified by Underwriters' Laboratories, Inc. as to fire hazard only for Type E industrial trucks.



Manufactured in our own ISO 9002 Registered Facilities

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1400 Sullivan Drive, Greenville, NC 27835

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Yale

Motorized Hand Straddle Stacker

MSW030-E
MSW040-E

Yale motorized hand trucks combine the latest in state-of-the-art technology and ergonomics making Yale the leader for masted walkie applications.

Controls

Travel direction and speed are selected by rotating the actuator in the desired direction of travel. The butterfly throttle control provides multiple grip positions minimizing operator fatigue. The stationary portion of the handle minimizes wrist movement and provides a solid grip while maneuvering the truck. This assures additional stability while driving the truck. The bottom-mounted tiller handle optimizes the operating position.

Lift, Lower and Horn push-buttons are conveniently located on the handle. Right hand push-buttons provide variable speed lift/lower for accurate load placement. Left hand push-buttons are used to control either single speed lift/lower or an optional sideshifter.

The Traction Reversing Switch located on top of the handle simultaneously reverses truck direction and sounds the horn should it come in contact with the operator. The wrap around design provides protection through the full range of handle movement. This switch is reset when the direction control is returned to neutral or the handle is moved to the brake "on" position.

Electrical System

The electrical system utilizes SEM technology with integral hoist control. Separately Excited Motor (SEM) provides the ability to control the traction motor fields and armature independently. This results in enhanced performance and battery efficiency. In combination with the Metal Oxide Semiconductor Field Effect Transistor (MOSFET) motor controller we have reduced wearable components, eliminated forward/reverse contactors and improved performance. The SEM control system provides higher top speeds when loaded and improved acceleration. Variable regenerative braking occurs when the throttle control is reversed. Regenerative braking improves traction motor brush life. The controller has an Auto Deceleration System to decelerate the truck as the butterfly throttle is moved toward the neutral position. The controller senses when the truck is stopped and automatically applies the brake. The Auto Deceleration System reduces the need to manually apply a

service brake for slow down. The controller has a programmable setup including parameters for acceleration, auto deceleration and top travel speed. Diagnostic information can be read using a hand-held programmer tool or by looking at the status of the LED indicator mounted on the controller. A solid-state circuit is used to control the pump motor and eliminates the lift contactor.

User Selectable Performance Modes

The operator has a choice of three pre-programmed performance modes that are selectable through the tiller handle. These modes alter the acceleration, deceleration and top speed of the truck.

- Mode 1 – Economy mode (battery saver)
 - Soft acceleration; reduced top travel speed with auto deceleration adjusted to a high level
- Mode 2 – Performance with auto deceleration
 - Medium acceleration; reduced top travel

speed with auto deceleration adjusted to a high level

- Mode 3 – Performance with minimum auto deceleration
 - High acceleration; high top travel speed with auto deceleration adjusted to a minimum level

Adjustable performance modes enable the operator to optimize the performance of the truck to the particular work environment or the work cycle. The operator can select the desired mode using the controls on the handle. In addition, an optional "custom performance" mode is available and can be configured by your local Yale Dealer.

Traction System

The traction system consists of the traction motor, gearbox, and brake. The UL approved traction motor with premium brushes and Class H insulation provides maximum thermal

(Continued on back page)



