Yale

Motorized Hand Truck

MCW020
MCW025
MCW030
MCW040

Controls

Bottom control handle design provides full and easy control of steering.

Travel - Butterfly-switch mounted on handgrips provides thumb and forefinger control of forward or reverse operation and speed by either right or left hand.

Horn - Pushbutton on steer handle enables operator to sound horn with either hand.

Reversing Switch - Pushbutton at top of steer handle automatically reverses truck direction upon contact with the operator. Truck will not move toward the operator again until handle assembly is cycled through a raised "brake on" position.

Steering - Steering is obtained by mounting the drive unit on a large-diameter ball bearing designed to reduce friction and make steering easier. Bearing has alternating load bearing balls and slightly smaller spacer balls. Wide angle steering (180°) makes close-quarter operation and right angle turns easy.

Lift\Lower\Tilt - Hydraulic control levers at top of drive unit compartment cover provide smooth control of mast functions through spool-type control valve.

Electrical Components

Drive Motor - Vertically mounted on drive unit. Yale-built Class H motor is ball bearing equipped, series-wound with high starting torque.

Hoist Motor - Ball bearing equipped, series-wound motor with high starting torque.

Wiring - Numerically coded for easy service. Wires in control handle are Teflon coated for durability and flexibility (to -40°c).

Driver Controller

The Curtis PMC Transistor unit provides smooth, totally stepless control of the truck's travel speeds. The design provides 275 amps capability and features: fault detection and thermal protective slow-down; adjustment for plugging, current limit and acceleration; arcless forward and reverse contractor actuation and a static return-to-off system.

Drive Unit

Drive unit is mounted on a large-diameter, heavy-duty steer bearing with three-point suspension to minimize mounting distortion or need for shimming. Bearing requires no adjustments, is greasable and has shield on upper race. Double-reduction spiral-bevel drive gearing operates adjustment-free in a totally enclosed oil bath with all moving shafts supported by ball bearings. Drive wheel is bolted to axle flange permitting easy removal when required.

Hydraulic Components

Pump - High volume motor-driven gear type.

Hoist Unit - A single centered high-lift cylinder design (large 63mm ID) with hard-chrome plated piston gives smooth lift action.

Tilt Cylinders - Two rugged, double-acting, piston-type cylinders. Pivot-type mounting permits self alignment.

Lower Control Valve - Allows controlled lowering speeds.

Hydraulic Reservoir - Provides a large volume of oil, reducing oil heating and allowing higher system efficiency.

Brakes

Power is cut off and brake is applied when steering handle is fully raised or lowered. Handle returns to vertical when released. Brake is external constricting shoe type, spring applied, and can be visually inspected or quickly replaced.

Mast, Carriage and Forks

Yale Hi-Vis masts provide outstanding visibility through the mast assembly. Mast is constructed of widespread outer channels and nested inner sections. Mast rails are specially rolled fine-grain steel. Wraparound cross-member and cross-braces provide added support for rails. Roller pressures are minimized through use of widely-spaced shimless load rollers. Side-thrust adjustment is accomplished without special tools of mast disassembly. Carriage side-thrust rollers resist pressure of off-center loads. Simplex mast has single-acting Yale-made hoist cylinder mounted between mast rails. Duplex and triplex masts employ two hoist cylinders mounted behind mast rails, and a third, free-lift cylinder for steady lifting. Hoist cylinder rods are hard-chrome plated. Cylinders are mounted on floating mounts that help prevent cylinder wear. Lowering speeds are controlled by velocity fuses in each cylinder base. Tilt cylinders are dou-

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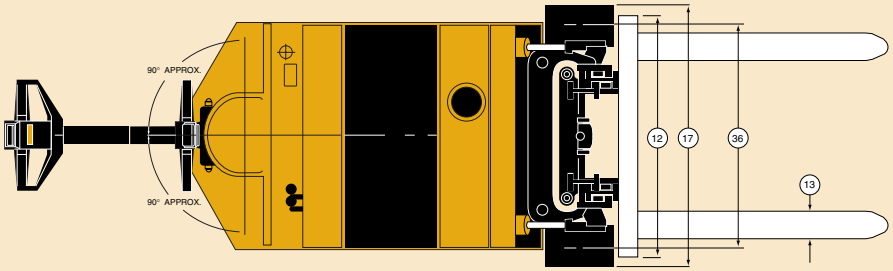
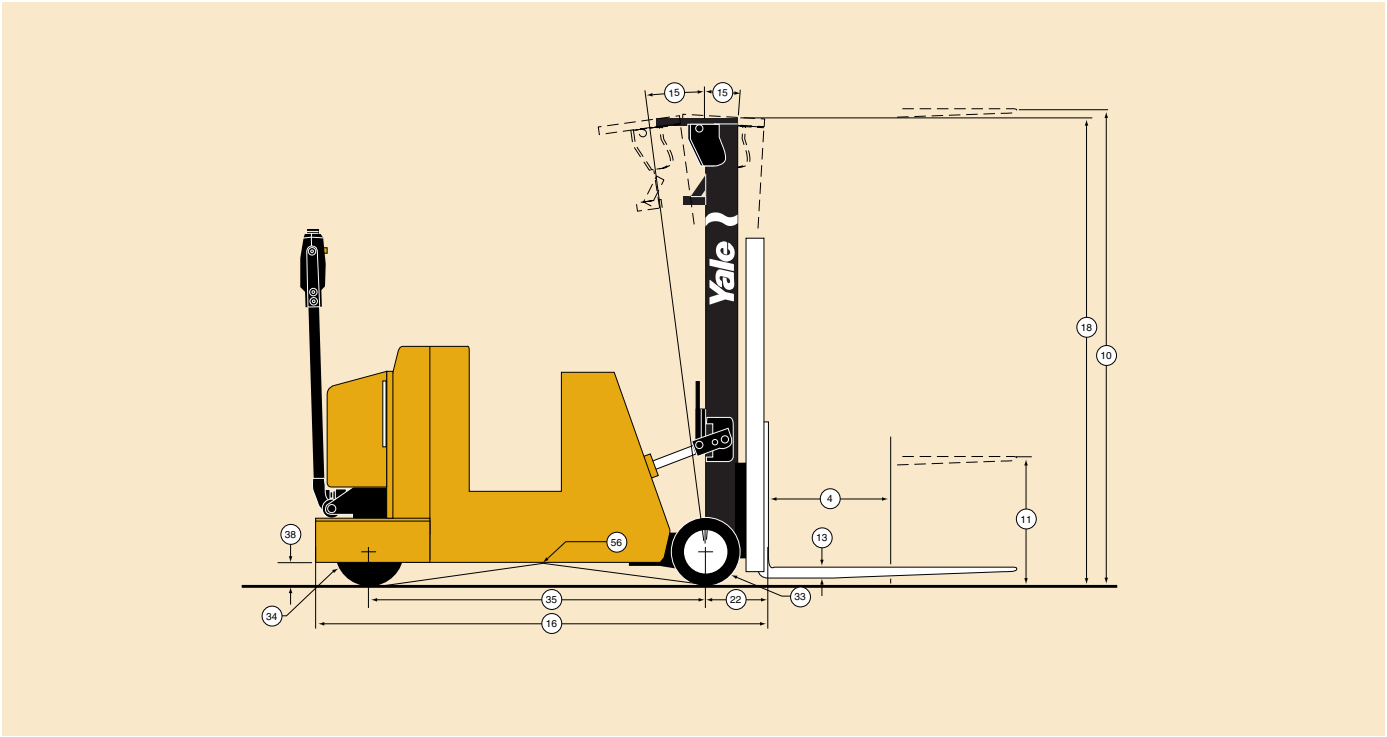


Dimensions displayed in inches. Dimensions in parenthesis represent millimeters.

GENERAL	1	**Manufacturer**	Manufacturer's Name		**YALE**	
	2	**Model**	Manufacturer's Designation		**MCW020**	
	3	**Capacity**	Rated Capacity	**lb. (kg)**	**2000 (907)**	
	4	**Load Center**	Distance	**in. (mm)**	**24 (610)**	
	5	**Power Type**	Electric		**Electric**	
	6	**Operator type**	Pedestrian		**Pedestrian**	
	8	**Tire type**	C=Cushion, P=Pneumatic	**Load/Drive**	**(C) Rubber/Rubber**	
	9	**Wheels**	Number (x=Drive)	**Front/Rear**	**2 / 1x**	
DIMENSIONS	10	**Upright Lift**	Lift Height (Top of Fork)	**in. (mm)**	**126 (3200)**	
	11	**With 2 Stage**	Standard Free Lift (Top of Fork)	**in. (mm)**	**6.2 (158)**	
	12	**Mast**	Standard Carriage Width	**in. (mm)**	**33.75 (857)**	
	13	**Forks**	Thickness/Width/Length	**in. (mm)**	**1.5 (38.1) / 4 (102) / 42 (1067)**	
	14	**Fork Spread**	Outside Dimensions	**in. (mm)**	**30.43 - 8.37 (772 - 213)**	
	15	**Tilt of Mast**	Forward/Backward	**degrees**	**4 / 8**	
	16		Length To Face of Forks Simplex/Triplex	**in. (mm)**	**65.2 (1665) / 1.66 (1688)**	
	17	**Overall**	Overall Width (Standard Tires)	**in. (mm)**	**38.3 (973)**	
	18	**Dimensions**	Height With Collapsed Mast	**in. (mm)**	**83 (2110)**	
	19		Hgt. Std. Upright Ext. W-W/O LBR	**in. (mm)**	**174 (4420) / 146 (3709)**	
	21	**Turning Radius**	Minimum (Outside)	**in. (mm)**	**66.0 (1676)**	
	22	**Load Length**	Front Overhang	**in. (mm)**	**8.44 (214)**	
	23	**Aisle Width**	Rt. Angle Stack (Add Length Of Load)	**in. (mm)**	**64.7 (1643)**	
	24	**Equal Aisle**	Equal Aisle (Less Load)	**in. (mm)**	**58.7 (1146)**	
		Stability	Comply With ANSI?		**Yes**	
PERF.			Voltage		**12-Volt**	**24-Volt**
	25	**Speeds - Travel**	Travel Speed - Loaded/No Load	**mph (kmh)**	**2.2 / 3.0**	**3.1 / 3.4**
	26	**Speeds - Lift**	Lift Speed - Loaded	**ft/min (m/s)**	**19**	**32**
			Lift Speed - No Load	**ft/min (m/s)**	**32**	**49**
	27		Lowering Speed - Loaded/No Load	**ft/min (m/s)**	**72 / 68**	**72 / 68**
WT.	29	**Gradeability**	Loaded/No Load (1 MPH)	**%**	**9%**	
	31	**Unloaded Weight**	Standard Truck Less Battery	**lb. (kg)**	**3350 (1520)**	
	32	**Axle Loads**	Static W/Rated Load - Front/Rear	**lb. (kg)**	**800 (362) / 560(2540)**	
WHEELS / TIRES			Number - Front/Rear		**2 / 1**	
	33	**Tire Size**	Front - Drive	**in.**	**10 x 6**	
	34		Rear - Loaded Wheels	**in.**	**10 x 5**	
	35	**Wheelbase**	Distance	**in. (mm)**	**49.0 (1245)**	
	36	**Tread**	Center Of Tires - Front/Rear	**in. (mm)**	**33.3 (845)**	
	37	**Ground**	Unloaded At Lowest Point	**in. (mm)**	**2.0 (50.8)**	
	38	**Clearance**	Unloaded Center Of Wheelbase	**in. (mm)**	**3.3 (84.0)**	
BATT.			Voltage		**12-Volt**	**24-Volt**
	41		Type		**Lead-Acid**	**Lead-Acid**
	42	**Battery**	Ampere Hrs. (Max.)	**ah**	**900**	**510**
	43		Minimum Weight	**lb. (kg)**	**400 (181)**	**500 (227)**
MOTORS	44		Traction Motor - 60 Min. Rating	**hp.**	**1.43**	**1.54**
	45	**Electric**	Pump Motor - 15 Min. Rating	**hp.**	**4.5**	**6.56**
	46	**Motors**	Traction Motor Control Method		**Transistor**	
	47		Number of Speeds		**Infinitely Variable**	
	55	**Relief Press.**	For Attachments	**psi.**	**2000**	
	56	**Grade Clearance**		**%**	**27**	

**** Based on triplex mast with maximum battery weight***



YALE		YALE		YALE		
MCW025		MCW030		MCW040	2	GENERAL
2500 (1134)		3000 (1361)		4000 (1814)	3	
24 (610)		24 (610)		24 (610)	4	
Electric		Electric		Electric	5	
Pedestrian		Pedestrian		Pedestrian	6	
(C) Rubber/Rubber		(C) Rubber/Poly		(C) Poly/Poly	8	
2 / 1x		2 / 1(x)		2 / 1(x)	9	
126 (3200)		126 (3200)		126 (3200)	10	DIMENSIONS
6.2 (158)		6.2 (158)		6.2 (158)	11	
33.75 (857)		33.75 (857)		33.75 (857)	12	
1.5 (30) / 4 (102) / 42 (1067)		1.5 (38) / 4 (102) / 42 (1067)		1.75 (45) / 5 (127) / 42 (1067)	13	
30.43 - 8.37 / (772 - 213)		30.43 - 8.37 (772 - 213)		30.43 - 10.32 (777 - 262)	14	
4 / 8		4 / 8		4 / 8	15	
65.2 (1665) / 66.1 (1688)		70.2 (1793) / 71.1 (1816)		77.2 (971) / 78.1 (1994)	16	
38.3 (973)		40.3 (1024)		40.3 (1024)	17	
83 (2110)		83 (2110)		83 (2110)	18	
174 (4420) / 146 (3709)		174 (4420) / 146 (3709)		174 (4420) / 146 (3709)	19	
66.0 (1676)		71.0 (1803)		78.0 (1992)	21	
8.44 (214)		8.44 (214)		8.69 (225)	22	
64.7 (1643)		69.7 (1770)		76.7 (1948)	23	
58.7 (1419)		61.7 (1567)		65.0 (1650)	24	
Yes		Yes		Yes		
12- Volt	24-Volt	12-Volt	24-Volt	24-Volt		PERF.
2.1 / 3.0	2.9 / 3.3	2.0 / 2.9	2.7 / 3.3	2.5 / 3.2	25	
17	29	16	28	24	26	
32	49	32	49	49		
72 / 68	72 / 68	74 / 68	74 / 68	76 / 68	27	
9%		9%		9%	29	WT.
3840 (1742)		4290 (1946)		4620 (2098)	31	
850 (385) / 665 (3016)		1000 (453) / 7400 (3356)		950 (431) / 8750 (3969)	32	
2 / 1		2 / 1		2 / 1		WHEELS/TIRES
10 x 6		10 x 7		10 x 7	33	
10 x 5		10 x 5		10 x 5	34	
49.0 (1245)		54.0 (1372)		61.0 (1549)	35	
33.3 (845)		35.3 (900)		35.3 (900)	36	
2.0 (50.8)		2.0 (50.8)		2.0 (50.8)	37	
3.3 (84.0)		3.3 (84.0)		3.3 (83.8)	38	
12-Volt	24-Volt	12-Volt	24-Volt	24-Volt		BATT.
Lead Acid	Lead Acid	Lead Acid	Lead Acid	Lead Acid	41	
900	510	900	510	510	42	
400 (181)	500 (227)	400 (181)	500 (227)	700 (317)	43	
1.43	1.54	1.43	1.54	1.54	44	MOTORS
4.5	6.56	4.5	6.56	4.5	6.56	45
Transistor		Transistor		Transistor	46	
Infinitely Variable		Infinitely Variable		Infinitely Variable	47	
2000		2000		2500	55	
27		25		22	56	

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ble-acting with hard-chrome plated rods. The hydraulic control valve has an anticavation (tilt-lock) feature. Hook-type carriage readily accepts attachments. Forks are heat-treated, forged steel with increased thickness in critical heel section.

Frame

Heavy gauge plate and bar steel frame is electrically welded into a unit structure for maximum rigidity and strength. Battery compartment is an integral part of the frame.

Wheels

Drive Wheels - ball bearing mounted:

MCW020-025 - 10" diameter x 5" face rubber (poly optional).
MCW030-040 - 10" diameter x 5" face poly.

Load Wheels - tapered roller bearing mounted.

MCW020-025-030 - 10" diameter x 6" face rubber (poly optional).
MCW040 - 10" diameter x 7" face poly.

Options

- 12 volt PMC control.
- Cold storage/corrosion protection.
- Hour meter (Hobbs).
- Hour meter and Discharge Indicator with warning lamp (Curtis 802 R).
- Discharge Indicator with warning lamp and Lift Interrupt (Curtis 933-1).
- Underwriters' Laboratories, Inc., Type "EE" rating.
- Poly drive wheel (MCW020-25).
- Poly load wheel (MCW020-025-030).
- Sideshifter.
- Push button lift and lower.
- Battery compartment cover.
- Battery rollers.
- Rotary grip style control.

Additional Features

Standard equipment includes key/switch and electric horn push button mounted on steering handle. Lubrication fill and drain plugs provided. Drive unit mounting race and all frame lubricating points are equipped with high pressure grease fittings.

Safety

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

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

Yale industrial trucks are equipped with certain safety devices as standard equipment. For example, all high-lift trucks are furnished with a load backrest extension and high-lift rider trucks with an operator's overhead guard, operator's restraint, and vertical battery restraint. When remote elevating control is specified, an operator's work platform is supplied.

Yale will supply only trucks equipped with required safety devices and strongly urges that these trucks be operated with the safety devices supplied.

Yale will not assume any liability for injuries or damage arising from or caused by the removal of any safety devices from any Yale product.

Standard Lift Specifications

(For other available mast heights - Contact your local Yale Dealer)

Model	O.A.H. in. (mm)	Free Fork Height in. (mm)	Max Fork Height in. (mm)	Tilt Rwd	Tilt Fwd	Drive Tire Size
MCW020-025-030						
Simplex	72 (1830)	6.2 (158)	104 (2640)	8	4	10 x 5
	77 (1955)	6.2 (158)	114 (2895)	8	4	10 x 5
	83 (2110)	6.2 (158)	126 (3200)	8	4	10 x 5
	92 (2335)	6.2 (158)	144 (3660)	8	4	10 x 5
	96 (2440)	6.2 (158)	152 (3860)	8	4	10 x 5
Duplex	72 (1830)	50.0 (1270)	106 (2710)	8	4	10 x 5
	77 (1955)	55.0 (1397)	116 (2960)	8	4	10 x 5
	83 (2110)	61.0 (1549)	128 (3265)	8	4	10 x 5
	92 (2335)	70.0 (1778)	146 (3725)	8	4	10 x 5
	96 (2440)	74.0 (1879)	154 (3925)	8	4	10 x 5
Triplex	72 (1830)	50.8 (1290)	157 (4000)	5	4	10 x 5
	77 (1955)	55.8 (1417)	172 (4380)▲	5	4	10 x 5
	83 (2110)	61.8 (1570)	190 (4840)▲	5	4	10 x 5
	92 (2335)	70.8 (1798)	217 (5525)▲	5	4	10 x 5
	96 (2440)	74.8 (1900)	229 (5830)▲	5	4	10 x 5

*Without backrest - With backrest subtract 48" from mast O.A.H. ▲ May have reduced capacity - Contact your local Yale Dealer.

(For other available mast heights - Contact your local Yale Dealer)

Model	O.A.H. in. (mm)	Free Fork Height in. (mm)	Max Fork Height in. (mm)	Tilt Rwd	Tilt Fwd	Drive Tire Size
MCW040						
Simplex	72 (1830)	6.2 (158)	100 (2540)	8	4	10 x 5
	77 (1955)	6.2 (158)	110 (2794)	8	4	10 x 5
	83 (2110)	6.2 (158)	122 (3098)	8	4	10 x 5
	92 (2335)	6.2 (158)	140 (3556)	8	4	10 x 5
	96 (2440)	6.2 (158)	148 (3759)	8	4	10 x 5
Duplex	72 (1830)	48.0 (1219)	104 (2640)	8	4	10 x 5
	77 (1955)	53.0 (1346)	114 (2895)	8	4	10 x 5
	83 (2110)	59.0 (1498)	126 (3200)	8	4	10 x 5
	92 (2335)	68.0 (1727)	144 (3660)	8	4	10 x 5
	96 (2440)	72.0 (1828)	152 (3860)	8	4	10 x 5
Triplex	72 (1830)	48.6 (1234)	153 (3886)	5	4	10 x 5
	77 (1955)	53.6 (1361)	168 (4267)▲	5	4	10 x 5
	83 (2110)	59.6 (1514)	186 (4724)▲	5	4	10 x 5
	92 (2335)	68.6 (1742)	213 (5410)▲	5	4	10 x 5
	96 (2440)	72.6 (1844)	225 (5715)▲	5	4	10 x 5

*Without backrest - With backrest subtract 48" from mast O.A.H. ▲ May have reduced capacity - Contact your local Yale Dealer.

Battery and Compartment Specifications

Model	Compartment Size			Battery Specifications										
				Size						Electrical			Weight	
				Dim X		Dim Y †		Dim Z				Max ‡		
	WD	LG	HT	Min	Max	Min	Max	Max		Volts	Plates	Amp Hr	Min †	Max
MCW020-025-030-040	31.87	13.38	6.0-Open	17.5	31.6	7.6	13.2	Open Well		12	21	900	400	1400
										24	13	510	400	1400

Yale® Industrial Trucks

Manufactured in our own ISO 9002 Registered Facilities

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