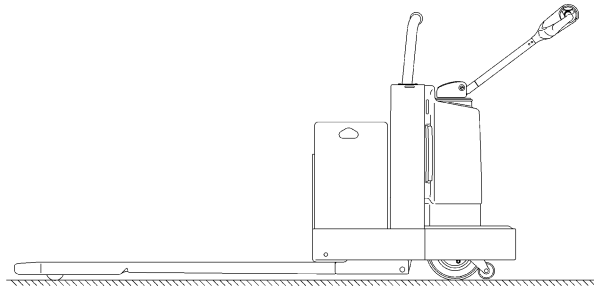


CAPACITIES AND SPECIFICATIONS

B60Z^{AC} [B230];
B80Z^{AC} [B233]



HYSTER

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This section is for the following models:

B60Z^{AC} [B230];
B80Z^{AC} [B233]

(More Content includes: Brake system, Capacities, and specifications, Frame, Hydraulic, System, Industrial battery, Main control, Valve, Mast repair, Fasteners, Schematics diagrams, Steering axle, Steering system, Wire harness repair And more)

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Hydraulic System

Unit	Battery Compartment	Operating Pressure ¹		Ampere Draw ²		Relief Setting		Lift Time (sec)		Lower Time (sec)	
		No Load	Rated Load	No Load	Rated Load	Pressure ³	Amp Draw	No Load	Rated Load	No Load	Rated Load
B60Z^{AC}	340 mm (13.4 in.)	2.94 MPa (426 psi)	11.03 MPa (1600 psi)	34	81	18.62 MPa (2700 psi)	124	3.7	4.7	3.0	1.8
B80Z^{AC}	340 mm (13.4 in.)	2.76 MPa (401 psi)	14.98 MPa (2173 psi)	45	108	24.13 MPa (3500 psi)	147	3.7	5.4	5.9	3.2
B60Z^{AC} - Standard Specifications Hydraulic Tank Capacity - 1.0 liter (1.06 qt) Pump Displacement (24 Volts) - 1.59 cm ³ /rev (0.092 in. ³ /rev) Creep Rate - 6.4 mm (0.25 in.) Maximum In 10 Minutes @ 32°C (90°F) Oil Temperature											
B80Z^{AC} - Standard Specifications Hydraulic Tank Capacity - 1.0 liter (1.06 qt) B80Z Pump Displacement (24 Volts) - 2.0 cm ³ /rev (0.122 in. ³ /rev) Creep Rate - 6.4 mm (0.25 in.) Maximum In 10 Minutes @ 32°C (90°F) Oil Temperature											
Footnotes ¹ ±0.35 MPa (±51 psi) @ 21°C (70°F) Oil Temperature ² ±10 Amps @ 1.270 Battery Specific Gravity ³ +0.6 to 0.0 MPa (+87 to 0 psi) @ 32°C (90°F) Oil Temperature Full Flow											

Hydraulic Oils

Operating Condition	Standard	CS/Freezer/Arctic/Food Processing
For All Hydraulically-Actuated Equipment		
Specification	ISO VG 46 Antiwear (HCE-140)	Exxon Unavis® HVI 26
Type	Conventional	Synthetic
Temperature Range	32 to -120°C (89.6 to -184.0°F)	0 to -120°C (32.0 to -184.0°F)
Pour Point Maximum	-15°C (5.0°F)	-60°C (-76.0°F)
Field Personnel Note: The product listed above is the approved source that meets or exceeds HYSTER specifications. The use of products other than that listed above is unauthorized.		

Gear Oils

Operating Condition	Standard/CS/Freezer/Food Processing	Arctic
SAE Grade	80W-90	75W-90
Type	Multipurpose EP	Multipurpose EP
Base Oil	Conventional	Synthetic
API Service Classification	GL-5	GL-5
Anticipated Ambient Temperature	-26 to +38°C (-15 to +100°F)	As low as -51°C (-60°F) ¹
¹ Primarily intended for cold storage and/or Arctic conditions; can be used as high as +32°C (+90°F).		
Field Personnel Note: The products listed above are the approved sources that meet or exceed HYSTER specifications. The use of products other than that listed above is unauthorized.		

Grease

Fittings and Bearings			
Application	Standard/CS/Freezer	Arctic/Food Processing	Steer Bearings
Approved Vendor	Mobilgrease® 28	Amsoil GHD®	Amsoil GHD®
Oil	Synthetic	Synthetic	Synthetic
Thickener	Clay	Lithium Complex	Lithium Complex
Grade NGLI	1.5	2.0	2.0
Moly-Fortified	No	Yes	Yes
Dropping Pt.	310°C (590°F)	288°C (550°F)	288°C (550°F)
Field Personnel Note: The product listed above is the approved source that meets or exceeds HYSTER specifications. The use of products other than that listed above is unauthorized.			

Truck Weight

Unit	Battery Compartment	Fork Length 1067 mm (36 in.) Weight	Fork Length 1219 mm (42 in.) Weight	Fork Length 2134 mm (48 in.) Weight	Fork Length 2438 mm (54 in.) Weight	Fork Length 2438 mm (60 in.) Weight
B60Z^{AC}	340 mm (13.4 in.)	561 kg (1237 lb)	570 kg (1257 lb)	577 kg (1272 lb)	--	591 kg (1302 lb)
B80Z^{AC}	340 mm (13.4 in.)	581 kg (1280 lb)	593 kg (1307 lb)	605 kg (1334 lb)	--	630 kg (1388 lb)

Unit	Battery Compartment	Fork Length 2134 mm (84 in.) Weight	Fork Length 2362 mm (93 in.) Weight	Fork Length 2438 mm (96 in.) Weight	Fork Length 3658 mm (114 in.) Weight
B80Z^{AC}	340 mm (13.4 in.)	657 kg (1436 lb)	664 kg (1463 lb)	676 kg (1490 lb)	774 kg (1706 lb)

Tire Sizes

Lift Truck Model	Drive Tire			
	Size	Composition	Rating ¹	Availability
B60Z^{AC}	10 × 5.00	Smooth Rubber	65	STD
		Smooth Poly	90	OPT
		Siped Poly	90	OPT
B80Z^{AC}	12 × 4.50	Smooth Poly	92	STD
		Siped Poly	92	OPT
		Soft Poly	80	OPT

¹ Durometer Rating

Load Wheels			
Size	Composition	Rating ¹	Availability
8.00 × 5.00	Rubber	65	STD
	Poly	93	OPT
3.25 × 6.50	Single Poly	95	STD
3.25 × 3.125	Dual Poly	90	OPT

¹ Durometer Rating

Torque Specifications

CASTER ASSEMBLY

Mounting Capscrews (8 each)

57 ±3 N•m (42 ±2 lbf ft)

DRIVE WHEEL ASSEMBLY

Drive Wheel Capscrews (5 each)

200 ±9 N•m (148 ±7 lbf ft)

MASTER DRIVE UNIT

Motor Mount Bolts (4 each)

17 ±1 N•m (13 ±9 lbf in)

Transmission to Frame Mounting Bolts (4 each)

B60ZAC 200 ±9 N•m (148 ±7 lbf ft)

B80ZAC 300 N•m (221 lbf ft)

Drain Plug

41 N•m (30 lbf ft)

Fill-Level Plug

27 N•m (20 lbf ft)

STANDARD STEERING

Dash to Frame Mounting Bolts (4 each)

119 N•m (88 lbf ft)

Steer Swivel to Dash Lock Nut (1 each)

27 N•m (20 lbf ft)

Steer Handle to Tiller Bracket (2 each)

27 N•m (20 lbf ft)

Butterfly Throttle Control to Handle (2 each)

1 N•m (9 lbf in)

Gas Spring Mounting Stud

30 N•m (22 lbf ft)

Gas Spring Ball Stud

27 N•m (20 lbf ft)

Steer Bearing Nut

26 ±2 N•m (19 ±1 lbf ft)

POWER ASSIST STEERING

Dash to Frame Mounting Capscrews (4 each)

45 ±3 N•m (33 ±2 lbf ft)

Potentiometer Mounting Capscrews (2 each)

2 N•m (1 lbf ft)

Gas Spring Ball Stud and Nut

27 N•m (20 lbf ft)

Steer Bearing Jam Nut

24 ±3 N•m (18 ±2 lbf ft)

Support Base to Center Support Capscrews (2 each)

34 ±7 N•m (25 ±5 lbf ft)

Articulated Shaft Bolts (2 each)

18 ±3 N•m (13 ±2 lbf ft)

BRAKE

Mounting Capscrews

B60ZAC 8 ±1 N•m (6 ±9 lbf in)

B80ZAC 22 ±2 N•m (16 ±1 lbf ft)

ELECTRICAL

Traction Motor Power Wire Nuts (4 each)

8 N•m (6 lbf ft)

Steady-Rest to frame (4 each)

88 N•m (65 lbf ft)

Auxiliary Control Box (4 each)

9 N•m (7 lbf ft)

Static Strap Mounting Capscrew

195 ±9 N•m (144 ±7 lbf ft)

Assisted Steer Contactor Terminal Nuts

8 ±2 N•m (6 ±1 lbf ft)

Assisted Steer Fuse Terminal Nuts

7 ±1 N•m (62 ±9 lbf in)

LIFT MECHANISM

Pull Rod Jam Nuts (4 each Rod)

176 ±3 N•m (130 ±2 lbf ft)

HYDRAULICS

Pump Assembly Mounting Capscrews

B60ZAC (3 each) 26 ±2 N•m (19 ±1 lbf ft)

B80ZAC (Upper, 1 each) 26 ±2 N•m (19 ±1 lbf ft)

B80ZAC (Lower, 2 each) 39 ±2 N•m (29 ±1 lbf ft)

Pump to Mounting Bracket Countersunk Capscrews (2 each)

B60ZAC 26 ±2 N•m (19 ±1 lbf ft)

Pump to Mounting Bracket Arm Capscrew

B80ZAC 9 ±2 N•m (7 ±1 lbf ft)

Pressure Port

38 ±2 N•m (28 ±1 lbf ft)

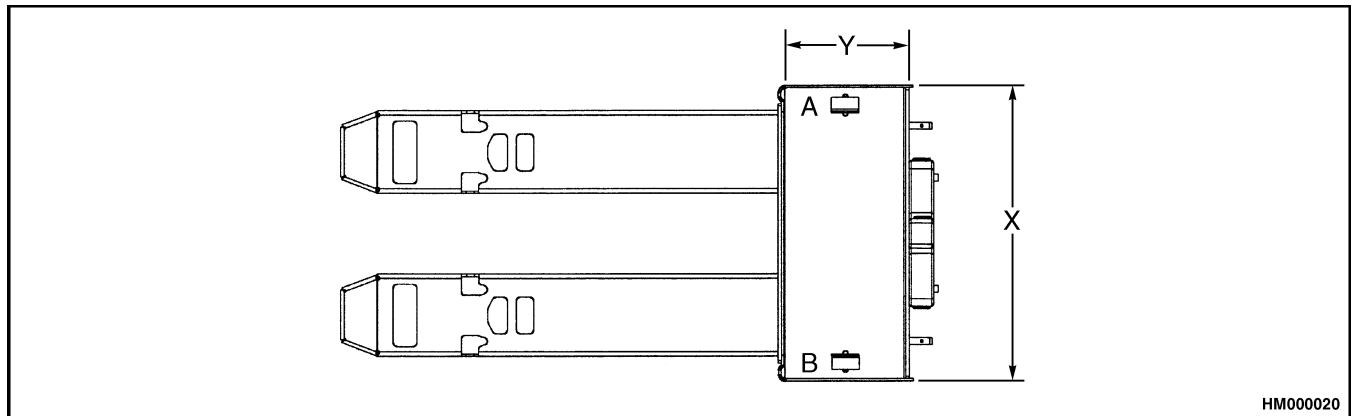
Lowering Control Relief Valve

34 ±4 N•m (25 ±3 lbf ft)

Battery Specifications

The battery used in the lift truck should be selected according to voltage, size, and weight. Batteries that are significantly smaller than the battery compartment must be installed with spacers to hold them

stable during operation. Never use a battery that is a different voltage or that exceeds the maximum weight. See Figure 1.



HM000020

Figure 1. Battery Compartment

Table 1. B60Z^{AC}

Voltage	Ampere Hours (Max)	Kilowatt Hours (Max)	Compartment Length (X)	Compartment Width (Y) (Max)	Recommended Height (Max)	Weight (Max)
24	225	5.2	650.2 mm (25.6 in.) ^a	223.5 mm (8.8 in.)	591.8 mm (23.3 in.)	243.1 kg (536 lb)
24	255	6.0	650.2 mm (25.5 in.) ^a	218.4 mm (8.6 in.)	591.8 mm (23.3 in.)	267.6 kg (590 lb)
24	375	8.7	673.1 mm (26.5 in.) ^b	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	374.2 kg (825 lb)
24	425	9.9	673.1 mm (26.1 in.) ^b	325.1 mm (12.8 in.)	591.8 mm (23.3 in.)	392.3 kg (865 lb)
24	450	10.5	784.8 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	447.7 kg (987 lb)
24	510	11.9	784.8 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	469.5 kg (1035 lb)

Note: If Y is less than 327.6 mm (12.9 in.), a supplemental retainer is required.

- a – Adjust both A and B retainers.
- b – Adjust A and remove B retainer.
- c – Remove both A and B retainer.

Table 2. B80Z^{AC}

Voltage	Ampere Hours (Max)	Kilowatt Hours (Max)	Compartment Length (X)	Compartment Width (Y) (Max)	Recommended Height (Max)	Weight (Max)
24	225	5.2	650.2 mm (25.6 in.) ^a	223.5 mm (8.8 in.)	591.8 mm (23.3 in.)	243.1 kg (536 lb)
24	255	6.0	650.2 mm (25.5 in.) ^a	218.4 mm (8.6 in.)	591.8 mm (23.3 in.)	267.6 kg (590 lb)
24	375	8.7	673.1 mm (26.5 in.) ^b	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	374.2 kg (825 lb)
24	425	9.9	673.1 mm (26.1 in.) ^b	325.1 mm (12.8 in.)	591.8 mm (23.3 in.)	392.3 kg (865 lb)
24	450	10.5	784.8 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	447.7 kg (987 lb)
24	510	11.9	784.8 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	591.8 mm (23.3 in.)	469.5 kg (1035 lb)
24	600	14.0	784.8 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	591.8 mm (26.2 in.)	517.1 kg (1140 lb)
24	750	17.6	784.3 mm (30.9 in.) ^c	330.2 mm (13.0 in.)	787.4 mm (31.0 in.)	657.7 kg (1450 lb)
<p>Note: If Y is less than 327.6 mm (12.9 in.), a supplemental retainer is required. a – Adjust both A and B retainers. b – Adjust A and remove B retainer. c – Remove both A and B retainer.</p>						

