

LIFT TRUCK WEIGHTS*		
Unit	Kilograms	Pounds
H2.00XL (H40XL)	3515	7750
H2.50XL (H50XL)	3855	8500
H3.00 (H60XL)	4315	9510

*Lift trucks equipped with overhead guard, mast, carriage, load backrest extension, forks, gasoline engine and operator.
H2.00–2.50XL (H40–50XL) with 3760 mm (148 in) two-stage mast.
H3.00XL (H60XL) with 3600 mm (142 in) two-stage mast.

ENGINE SPECIFICATIONS				
Engine	Mazda M4–121G (A177, B177, C177)*	GM 4–181 (C177)*	Isuzu C240 (A177, B177, C177)*	Isuzu 4JB1 (C177)*
No. of Cylinders	4	4	4	4
Firing Order	1–3–4–2	1–3–4–2	1–3–4–2	1–3–4–2
Bore and Stroke	82 mm x 94 mm (3.23 in x 3.70 in)	102 mm x 91 mm (4.00 in x 3.60 in)	86 mm x 102 mm (3.39 in x 4.02 in)	93 mm x 102 mm (3.67 in x 4.02 in)
Displacement	1985 cm ³ (121.1 in ³)	2966 cm ³ (181 in ³)	2369 cm ³ (144.5 in ³)	2771 cm ³ (169 in ³)
Compression Ratio	8.0:1 (A177) 8.6:1 (B177, C177)	8.0:1	20.0:1	18.2:1
Compression Pressure	1075 kPa (156 psi) @ 200 rpm	758 kPa (110 psi) @ 200 rpm	3040 kPa (441 psi) @ 200 rpm	3040 kPa (441 psi) @ 200 rpm
Oil Pressure	450 kPa (65 psi) minimum @3000 rpm	138 kPa (20 psi) minimum @1200 rpm	390 kPa (57 psi) minimum @1000 rpm	294 kPa (43 psi) minimum @2000 rpm
Ignition Timing	13° BTDC @625 rpm	0° BTDC @500 rpm	Not Applicable	Not Applicable
Valve Clearance (Inlet and Exhaust)	0.3 mm (0.012 in) Hot	One turn down from zero clearance	0.45 mm (0.018 in) Cold	0.40 mm (0.016 in) Cold
Idle Speed	600 to 650 rpm	560 to 600 rpm	600 to 650 rpm	750 to 800 rpm
Governor Speed @ No Load	3000 to 3100 rpm	2700 to 2800 rpm	3000 to 3100 rpm	2250 to 2350 rpm
Stall Speed** Gasoline LPG	2000 to 2100 rpm 1950 to 2050 rpm	2150 to 2250 rpm 2100 to 2200 rpm	2050 to 2150 rpm (Diesel)	1955–2055 rpm (Diesel)
Thermostat Range	75 to 78°C (167 to 172°F)	82°C (180°F)	75 to 78°C (167 to 172°F)	75 to 78°C (167 to 172°F)
Cooling System Pressure	103 kPa (15 psi)	88 kPa (13 psi)	103 kPa (15 psi)	103 kPa (15 psi)
Fuel Injector Pressure	Not Applicable	Not Applicable	1195 MPa (1706 psi)	1814 MPa (2630 psi)
Fuel Injection Timing	Not Applicable	Not Applicable	14° BTDC Static	16° BTDC Static

*Lift truck serial number code
**Engines with 50 hours or more of operation
◆ With initial timing connector disconnected

ENGINE ELECTRICAL SPECIFICATIONS

Item	Mazda M4-121G (A177, B177, C177)*	GM 4-181 (C177)*	Isuzu C240 (A177, B177, C177)*	Isuzu 4JB1 (C177)*
All Models	12 volt Negative Ground	12 volt Negative Ground	12 volt Negative Ground	12 volt Negative Ground
Alternator Output (hot)	35 amps (A177) or 56 amps (B/C177) @3000 rpm	56 amps @2750 rpm	56 amps @3000 rpm	56 amps @2350 rpm
Distributor Points A177 Only	0.4 to 0.5 mm (0.016 to 0.020 in)	Electronic ignition system	Not Applicable	Not Applicable
Spark Plug Type	NGK BP-2E or ND W9EPR	AC R46TS or Champion RBL 17Y	Not Applicable	Not Applicable
Gap	0.7 to 0.8 mm (0.028 to 0.032 in)	1.1 mm (0.045 in)	Not Applicable	Not Applicable

*Lift truck serial number code

HYDRAULIC SPECIFICATIONS

Item	Specification
Pump Type	Gear Pump with Flow Control Valve
Main Flow (to Lift, Tilt, and Attachments)	
A177** @ 2000 rpm with no load	32.9 litres per minute (8.7 gallons per minute)
B177** @ 2000 rpm with no load	35.2 litres per minute (9.3 gallons per minute)
C177** @ 2000 rpm with no load, Mazda or Isuzu Engines	44.7 litres per minute (14.3 gallons per minute)
GM 4-181 Engine	54.1 litres per minute (14.3 gallons per minute)
**Lift truck serial number code	
Controlled Flow (to Steering, all units)	6.4 litres/minute (1.7 gallons per minute)
Relief Pressure, Lift System	
Control valve with three spools and one relief valve	19.3 to 20.0 MPa (2800 to 2900 psi) at full flow (Check at inlet line to control valve port.)
Control valves with four spools and two relief valves:	
Primary relief valve	19.3 to 20.0 MPa (2800 to 2900 psi) at full flow (Check at inlet line to control valve port with lift spool in full Lift position.)
Secondary relief valve	15.2 to 15.9 MPa (2200 to 2300 psi) at full flow (Check at inlet line to control valve port with tilt spool in full Tilt position.)
Relief Pressure, Steering System , all units	10.3 to 11.0 MPa (1435 to 1552 psi) @ 1000 rpm
Capacity, Hydraulic System	35.0 litre (9.2 gallons)
Capacity, Hydraulic Tank	31.8 litre (8.4 gallons)
Hydraulic System	Hydraulic oil temperature at 55 to 65°C (130 to 150°F). Hydraulic oil with different viscosity will change "flow" values.

CAPACITIES	
Item	Quantity
Engine Oil, Mazda M4-121G	5.2 litre (5.5 qt)
Engine Oil, GM 4-181	4.3 litre (4.5 qt)
Engine Oil, Isuzu C240	5.2 litre (5.5 qt)
Engine Oil, Isuzu 4JB1	6.5 litre (6.9 qt)
Cooling System, Mazda M4-121G	11.1 litre (11.7 qt)
Cooling System, GM 4-181	11.0 litre (11.6 qt)
Cooling System, Isuzu C240	11.4 litre (12.0 qt)
Cooling System, Isuzu 4JB1	11.0 litre (11.6 qt)
Transmission	9.0 litre (9.5 qt)
Differential	7.6 litre (8.0 qt)
Fuel Tank	43.5 litre (11.5 gallons)
Brake Fluid	0.2 litre (0.5 pint)

LIFT TRUCK TRAVEL SPEEDS		
Unit	Forward	Reverse
H2.00XL (H40XL)	19.5 km/hr (12.1 mph)	19.5 km/hr (12.1 mph)
H2.50XL (H50XL)	19.5 km/hr (12.1 mph)	19.5 km/hr (12.1 mph)
H3.00 (H60XL)	21.4 km/hr (13.3 mph)	21.4 km/hr (13.3 mph)

TIRE SPECIFICATIONS		
Steering Tires	6.00 x 9, 10 ply	All Tire Pressures are 860 kPa (125 psi)
Steering Tires	7.00 x 12, 12 ply	
Drive Tires	29 x 8 – 15, 12 ply	
Drive Tires	28 x 9 – 15, 12 ply	

MAST SPEEDS (Early A177* Units)

*Lift truck serial number code

STANDARD MAST

Unit	Lifting				Lowering			
	NO LOAD		RATED LOAD		NO LOAD		RATED LOAD	
	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min
H2.00–2.50XL (H40–50XL)	0.50	98	0.46	90	0.55	109	0.55	109
H3.00XL (H60XL)	0.42	82	0.38	74	0.47	92	0.47	92

VISTA TWO-STAGE MAST

H2.00–2.50XL (H40–50XL)	0.47	93	0.43	85	0.55	109	0.58	115
H3.00XL (H60XL)	0.37	82	0.34	74	0.47	92	0.47	92

VISTA THREE-STAGE MAST

H2.00–2.50XL (H40–50XL)	0.47	92	0.43	84	0.52	102	0.52	102
H3.00XL (H60XL)	0.40	78	0.35	69	0.44	86	0.44	86

MAST SPEEDS (Later A177* Units)

*Lift truck serial number code

VISTA FREE-LIFT MAST

Unit	Lifting				Lowering			
	NO LOAD		RATED LOAD		NO LOAD		RATED LOAD	
	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min
H2.00–2.50XL (H40–50XL)	0.40	79	0.37	74	0.41	81	0.49	96
H3.00XL (H60XL)	0.40	79	0.35	69	0.41	81	0.48	94

VISTA TWO-STAGE MAST

H2.00–2.50XL (H40–50XL)	0.42	83	0.37	74	0.45	89	0.46	91
H3.00XL (H60XL)	0.42	83	0.35	69	0.45	89	0.49	96

VISTA THREE-STAGE MAST

H2.00–2.50XL (H40–50XL)	0.40	79	0.37	74	0.43	85	0.45	89
H3.00XL (H60XL)	0.40	79	0.35	69	0.43	85	0.46	91

(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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MAST SPEEDS									
(B177* and C177* with Mazda M4-121G or Isuzu 240 Engines)									
*Lift truck serial number code									
VISTA FREE-LIFT MAST									
Unit	Lifting				Lowering				
	NO LOAD		RATED LOAD		NO LOAD		RATED LOAD		
	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	
H2.00-2.50XL (H40-50XL)	0.45	98	0.41	81	0.39	77	0.49	96	
H3.00XL (H60XL)	0.42	82	0.38	74	0.47	92	0.47	92	
VISTA TWO-STAGE MAST									
H2.00-2.50XL (H40-50XL)	0.47	93	0.43	85	0.42	83	0.47	92	
H3.00XL (H60XL)	0.47	93	0.40	79	0.42	83	0.52	102	
VISTA THREE-STAGE MAST									
H2.00-2.50XL (H40-50XL)	0.45	89	0.41	81	0.41	81	0.46	91	
H3.00XL (H60XL)	0.45	89	0.38	75	0.41	81	0.49	96	

MAST SPEEDS (C177* with GM 4-181 or Isuzu 4JB1 Engines)									
*Lift truck serial number code									
VISTA FREE-LIFT MAST									
Unit	Lifting				Lowering				
	NO LOAD		RATED LOAD		NO LOAD		RATED LOAD		
	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	
H2.00-2.50XL (H40-50XL)	0.51	100	0.48	94	0.41	81	0.49	96	
H3.00XL (H60XL)	0.51	100	0.48	94	0.41	81	0.48	94	
VISTA TWO-STAGE MAST									
H2.00-2.50XL (H40-50XL)	0.53	104	0.50	98	0.45	89	0.46	91	
H3.00XL (H60XL)	0.53	104	0.50	98	0.45	89	0.49	96	
VISTA THREE-STAGE MAST									
H2.00-2.50XL (H40-50XL)	0.51	100	0.48	94	0.43	85	0.45	89	
H3.00XL (H60XL)	0.51	100	0.48	94	0.43	85	0.46	91	

TRANSMISSION PRESSURES

Pressure	PORT 1 Transmission Pump	PORT 2 Forward Clutch	PORT 3 Reverse Clutch	PORT 4 Torque Converter	PORT 5 Lubrication Pressure	PORT 6 Modulator Pressure
kPa (psi)	965 to 1170 (140 to 170)	724 to 860 (105 to 125)	724 to 860 (105 to 125)	724 to 860 (105 to 125)	105 to 175 (15 to 25)	Pressure Variation

NOTES:

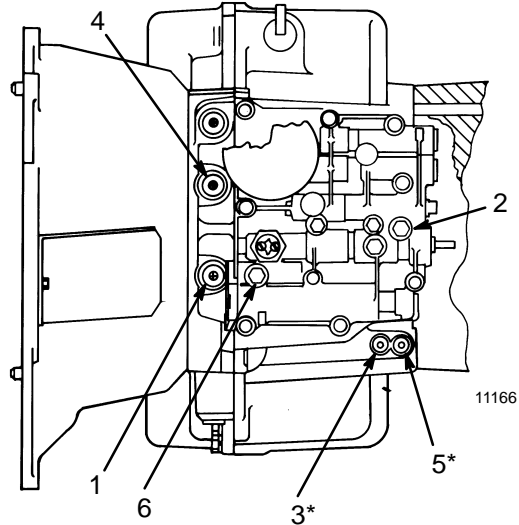
For HYSTER transmissions only.

All pressures are measured at 2000 rpm with oil temperature at 50°C (130°F).

The difference in the Forward and Reverse clutch pressures must not be more than 70 kPa (10 psi).

- TEST PORT 1 – PRESSURE FROM TRANSMISSION PUMP
- TEST PORT 2 – PRESSURE TO FORWARD CLUTCH
- TEST PORT 3 – PRESSURE TO REVERSE CLUTCH
- TEST PORT 4 – OIL PRESSURE TO TORQUE CONVERTER
- TEST PORT 5 – OIL PRESSURE FROM OIL COOLER
- TEST PORT 6 – MODULATOR PRESSURE

*On some T43 transmissions and on T42 transmissions before serial number T42M 3040 (and one unit T42M 3068) test ports 3 and 5 are reversed.



TRANSMISSION PRESSURES

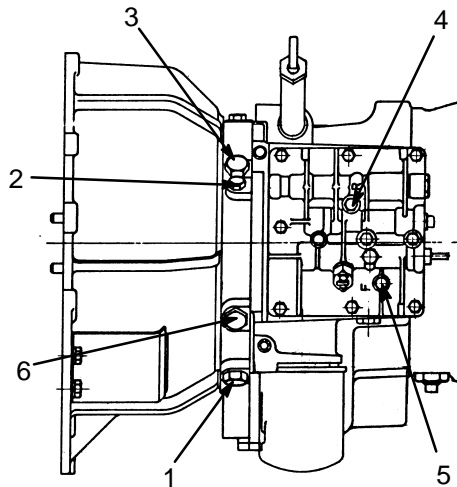
Pressure	PORT 1 Main Regulator	PORT 2 Torque Converter	PORT 3 Oil Cooler In	PORT 4 Forward Clutch	PORT 5 Reverse Clutch
kPa (psi)	985 to 1103 (140 to 160)	758 to 896 (110 to 130)	345 to 383 (50 to 70)	655 to 793 (95 to 115)	655 to 793 (95 to 115)

NOTES:

For early (horizontal oil filter) transmissions only.

All pressures are measured at 2000 rpm with oil temperature at 50°C (130°F).

- TEST PORT 1 – MAIN REGULATOR
- TEST PORT 2 – TORQUE CONVERTER REGULATOR
- TEST PORT 3 – OIL COOLER
- TEST PORT 4 – FORWARD CLUTCH PRESSURE
- TEST PORT 5 – REVERSE CLUTCH PRESSURE
- 6. TORQUE CONVERTER REGULATOR



TORQUE SPECIFICATIONS

Item	Specification
ENGINE (MAZDA M4-121G)	See the torque specifications in the Service Manual section for this engine.
Motor mount to engine (upper capscrews are Grade 5)	56 N.m (41 lb _f ft)
Motor mount to engine (lower capscrews are Grade 8)	81 N.m (60 lb _f ft)
Motor mount bolts	53 N.m (39 lb _f ft)
ENGINE (GM 4-181)	See the torque specifications in the Service Manual section for this engine .
Motor mount bolts	53 N.m (39 lb _f ft)
ENGINE (ISUZU C240)	See the torque specifications in the Service Manual section for this engine.
Motor mount to engine (short capscrews)	55 N.m (40 lb _f ft)
Motor mount to engine (long capscrews)	40 N.m (30 lb _f ft)
Motor mount bolts	53 N.m (39 lb _f ft)
ENGINE (ISUZU 4JB1)	See the torque specifications in the Service Manual section for this engine.
Motor mount to engine	55 N.m (40 lb _f ft)
Motor mount bolts	178 N.m (130 lb _f ft)
TRANSMISSION	See the torque specifications in the Service Manual section for the transmission.
Drive plate to torque converter	45 N.m (33 lb _f ft)
Torque converter housing to engine	38 N.m (28 lb _f ft)
Torque converter housing to transmission	
³ / ₈ inch capscrews	37 to 43 N.m (27 to 32 lb _f ft)
⁷ / ₁₆ inch capscrews	57 to 68 N.m (42 to 50 lb _f ft)
Differential housing to transmission	38 N.m (28 lb _f ft)
HYDRAULIC PUMP	
Acorn nut for adjustment screw	28 to 31 N.m (20 to 23 lb _f ft)
Plug for relief valve	34 to 39 N.m (25 to 29 lb _f ft)
Plug for regulator valve	59 to 69 N.m (43 to 51 lb _f ft)
Capscrews for pump body	46 to 49 N.m (34 to 36 lb _f ft)
HYDRAULIC CONTROL VALVE	
Through bolts, ⁵ / ₁₆ inch	19 N.m (14 lb _f ft)
Through bolts, ³ / ₈ inch	45 N.m (33 lb _f ft)

TORQUE SPECIFICATIONS

Item	Specification
BRAKES	See the torque specifications in the Service Manual section for the brakes.
DRIVE AXLE	See the torque specifications in the Service Manual section for the drive axle.
STEERING AXLE	See the torque specifications in the Service Manual section for the steering axle.
Rod end capscrews, Tilt cylinders	77 N.m (57 lb _f ft)
Mast, bolts for hanger caps	165 N.m (122 lb _f ft)
Counterweight capscrews	320 N.m (235 lb _f ft)