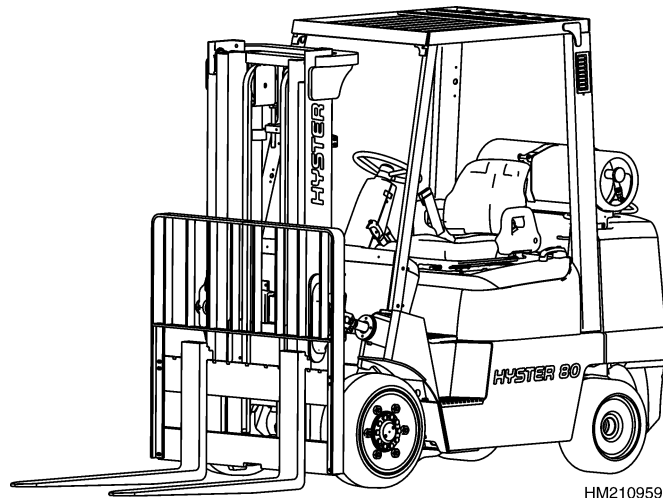


CAPACITIES AND SPECIFICATIONS

S3.50-5.50XM (S70-120XM) [E004, F004]



HM210959

HYSTER

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This section is for the following models:
S3.50-5.50XM (S70-120XM) [E004, F004]

Tire Sizes

Model	Steering	Drive
S3.50 (S70XM)	18 × 6 × 12.1	22 × 9 × 16
S4.00 (S80XM)	18 × 7 × 12.1	22 × 9 × 16
S4.50-5.50XM (S100-120XM)	18 × 8 × 12.1	22 × 12 × 16

Hydraulic System

Item	Specification
Hydraulic System Capacity	39.3 liter (10.4 gal)
Hydraulic Tank Capacity (Total Tank Capacity)	35.5 liter (9.4 gal)
Relief Pressures*	
Main Control Valve	
Lift Circuit	22.0 MPa (3200 psi)
Tilt and Auxiliary Circuit	15.5 MPa (2250 psi)
Steering Circuit	10.7 MPa (1550 psi)
Hydraulic Pump**	
Capacity	89 liter/min (23.5 gal/min)
Priority Flow	None
*Oil temperature 50 to 100°C (120 to 210°F) and engine speed at 2500 rpm.	
**Oil temperature 80 to 100°C (176 to 210°F) and engine speed at 2550 rpm.	

Electrical System

Alternator Output	
GM V-6	38 Amps @ 650 rpm (Hot)
	62 Amps @ 2200 rpm (Hot)
Perkins	42 Amps @ 650 rpm (Hot)
	62 Amps @ 2500 rpm (Hot)
All Models - 12 Volt, Negative Ground	

Engine Specifications

Item	GM V-6 4.3	Perkins 1004-4
Number of Cylinders	6	4
Firing Order	1-6-5-4-3-2	1-3-4-2
Bore	102.00 mm (4.00 in.)	103.00 mm (4.055 in.)
Stroke	88.40 mm (3.50 in.)	127.00 mm (5.00 in.)
Displacement	4.3 liter (262.4 in. ³)	4.0 liter (244.0 in. ³)
Compression Ratio	9.3:1	18.5:1
Idle Speed	675 to 725 rpm	725 to 775 rpm
Governor Speed	2400 to 2500 rpm	2450 to 2550 rpm
Stall Speed		
Broken in Engine	1810 (Gas) 1735 (LPG) +300/-50 rpm	2050 rpm ±50 rpm
New Engine	1710 (Gas) 1635 (LPG) +300/-50 rpm	1950 rpm ±50 rpm
Timing	0° BTDC at 650 rpm	2° BTDC (Static)
Oil Pressure (Minimum)	207 to 380 kPa (30 to 55 psi)	280 kPa (41 psi)
Valve Clearance		
Intake	Not adjustable	0.20 mm (0.008 in.) Cold
Exhaust	Not adjustable	0.45 mm (0.018 in.) Cold

Capacities

Item	Quantity
Engine Oil	
GM V-6	4.7 liter (5.0 qt)
Perkins 1004-4	8.0 liter (8.5 qt)
Cooling System	18.9 liter (20.0 qt)
Hydraulic Tank (Total Tank Capacity)	35.5 liter (9.4 gal)
Transmission	15.1 liter (16.0 qt)
Differential	5.7 liter (6.0 qt)
Fuel Tank	34.0 liter (9.1 gal)
Brake Fluid	0.2 liter (0.5 pt)

(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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Lift Truck Weights

Unit	kg	lb
S3.50XM (S70XM)	5,515	11,937
S4.00XM (S80XM)	5,780	12,742
S4.00XM BCS (S80XM BCS)	5,995	13,217
S4.50XM (S100XM)	6,768	14,920
S4.50XM BCS (S100XM BCS)	7,245	15,973
S5.50XM (S120XM)	7,433	16,387
S5.50XMS (S120XMS)	7,527	16,589
S5.50XMSPRS (S120XMSPRS)	7,820	17,241

NOTE: Lift trucks equipped with overhead guard, mast, carriage, load backrest, forks, and LPG engine.

NOTE: S3.50-4.00XM (S70-80XM) and S4.00XM BCS (S80XM BCS) have 3099 mm (122 in.) two-stage LFL mast.

S4.50-5.50XM (S100-120XM), S4.50XM BCS (S100XM BCS), S5.50XMS (S120XMS), and S5.50XMSPRS (S120XMSPRS) have 2845 mm (112 in.) two-stage LFL mast.

Transmission Pressures (Single-Speed Powershift)

	Port No.	Transmission Pressures*	
	1	System Pressure	1170 to 1380** kPa (170 to 200 psi) **Relief pressure 1379 kPa (200 psi)
	2	Forward Clutch	895 to 1035 kPa (130 to 150 psi)
	3	Reverse Clutch	895 to 1035 kPa (130 to 150 psi)
	4	Torque Converter	655 to 760 kPa (95 to 110 psi)
	5	Lubrication Pressure	35 to 105 kPa (5 to 15 psi)
	6	Modulator Pressure	Pressure Variation

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*Oil temperature at least 50 to 65°C (120 to 150°F) and engine speed at 2000 rpm.

NOTE: The difference between Forward and Reverse clutch pressure must not be more than:

- Manufacturing limit 48 kPa (7 psi)
- Service limit 70 kPa (10 psi)

Mast Speeds

Two-Stage Full 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
S3.50-4.00XM (S70-80XM)	0.60	118	0.56	111	0.36	70	0.50	99
S4.50XM (S100XM)	0.51	101	0.48	94	0.32	63	0.45	89
S5.50XM (S120XM)	0.51	101	0.44	87	0.32	63	0.47	92

Two-Stage Limited 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
S3.50-4.00XM (S70-80XM)	0.68	134	0.62	123	0.47	93	0.55	108
S4.50-5.50XM (S100-120XM)	0.55	108	0.53	105	0.42	82	0.51	100

Three-Stage Full Free-Lift								
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
S3.50-4.00XM (S70-80XM)	0.63	124	0.58	114	0.44	87	0.53	105
S4.50XM (S100XM)	0.52	102	0.51	100	0.39	76	0.47	92
S5.50XM (S120XM)	0.52	102	0.45	89	0.39	76	0.47	92

Torque Specifications

FRAME

Counterweight Capscrew
1022 N•m (755 lbf ft)

ENGINE - GM V-6

Intake Manifold Capscrews
47 N•m (35 lbf ft)

Valve Cover Capscrews
10 N•m (7 lbf ft)

Exhaust Manifold Capscrews
35 N•m (25 lbf ft)
Center Port 25 N•m (20 lbf ft)
Outer Ports 50 N•m (35 lbf ft)

Camshaft Sprocket Capscrews
25 N•m (20 lbf ft)

Vibration Damper Capscrew
81 N•m (60 lbf ft)

Main Bearing Cap Capscrews
70 N•m (50 lbf ft)

Connecting Rods
45 N•m (35 lbf ft)

Flywheel Capscrews
80 N•m (60 lbf ft)

Flywheel Housing Capscrews
50 N•m (40 lbf ft)

Engine Mount to Engine Capscrews
30 N•m (25 lbf ft)

Engine Mount to Mount Plate Bolts
65 N•m (50 lbf ft)

Engine Mount to Flywheel Housing Capscrews
165 N•m (120 lbf ft)

Engine Mount Bolts
120 N•m (90 lbf ft)

ENGINE - PERKINS

Engine Mount to Engine Capscrews
65 N•m (50 lbf ft)

Engine Mount Bolts
120 N•m (90 lbf ft)

TRANSMISSION

Transmission Cover Capscrews
40 N•m (30 lbf ft)

Oil Pump Capscrews
40 N•m (30 lbf ft)

Torque Converter Housing Capscrews
40 N•m (30 lbf ft)

Control Valve Capscrews
20 N•m (15 lbf ft)

Differential Case Capscrews
140 N•m (105 lbf ft)

Ring Gear Capscrews
140 N•m (105 lbf ft)

Output Gear Nut
750 N•m (550 lbf ft)

Torque Converter Drive Plate Capscrews
45 N•m (35 lbf ft)

Differential Bearing Caps
225 N•m (166 lbf ft)

DRIVE AXLE

Brake Assembly to Axle Nuts
340 to 375 N•m (251 to 277 lbf ft)

Axle Mount to Frame
320 to 350 N•m (235 to 258 lbf ft)

Axle Shaft Flange Capscrews
225 to 250 N•m (166 to 184 lbf ft)

Axle Housing to Transmission Capscrews
65 N•m (48 lbf ft)

Hub Adjustment Nut
205 N•m (151 lbf ft) Initial
35 N•m (26 lbf ft) Final

Wheel Nuts
610 to 680 N•m (450 to 502 lbf ft)

STEERING SYSTEM

Axle Mount Capscrews
90 N•m (66 lbf ft)

Bearing Cap for Spindle

45 N•m (35 lbf ft)

Tie Rod Castle Nut

175 N•m (129 lbf ft)

Steering Cylinder Capscrews

225 N•m (166 lbf ft)

Wheel Bearing Adjustment Nut

200 N•m (148 lbf ft) Initial

35 N•m (26 lbf ft) Final

BRAKE SYSTEM**Back Plate Capscrews**

340 N•m (251 lbf ft)

HYDRAULIC SYSTEM**Capscrews for Special Blocks for Pump Drive Chain**

20 N•m (15 lbf ft)

MAIN CONTROL VALVE**Through Bolt Nuts (5/16 in.)**

20 N•m (15 lbf ft)

Through Bolts Nuts (3/8 in.)

45 N•m (35 lbf ft)

TILT CYLINDERS**Piston Nut**

400 to 440 N•m (295 to 325 lbf ft)

Retainer

400 to 500 N•m (295 to 370 lbf ft)

Rod End Lock Capscrews

90 N•m (66 lbf ft)

Anchor Pin Retainer Capscrews

77 N•m (57 lbf ft)

LIFT CYLINDERS**Main Lift Cylinder Retainer Cap**

340 to 410 N•m (251 to 302 lbf ft)

Free-Lift Cylinder Retainer Cap

400 to 475 N•m (295 to 350 lbf ft)

Free-Lift Cylinder Mount Capscrews

121 N•m (89 lbf ft)

MAST**Pivot Pin Capscrews**

320 N•m (236 lbf ft)

Sideshift Carriage

Lower Hook Capscrews 78 N•m (58 lbf ft)

Side Roller Mount Capscrews 90 N•m (66 lbf ft)

