



Service Manual

Chassis & Mast

FBC15N, FBC18N, FBC18LN

A4BC1-10200-up

A4BC1-20200-up

A4BC1-30200-up

FBC20N, FBC25N

A4BC2-10200-up

A4BC2-20200-up

FBC25EN, FBC25LN, FBC30N

A4BC3-20200-up

A4BC3-30200-up

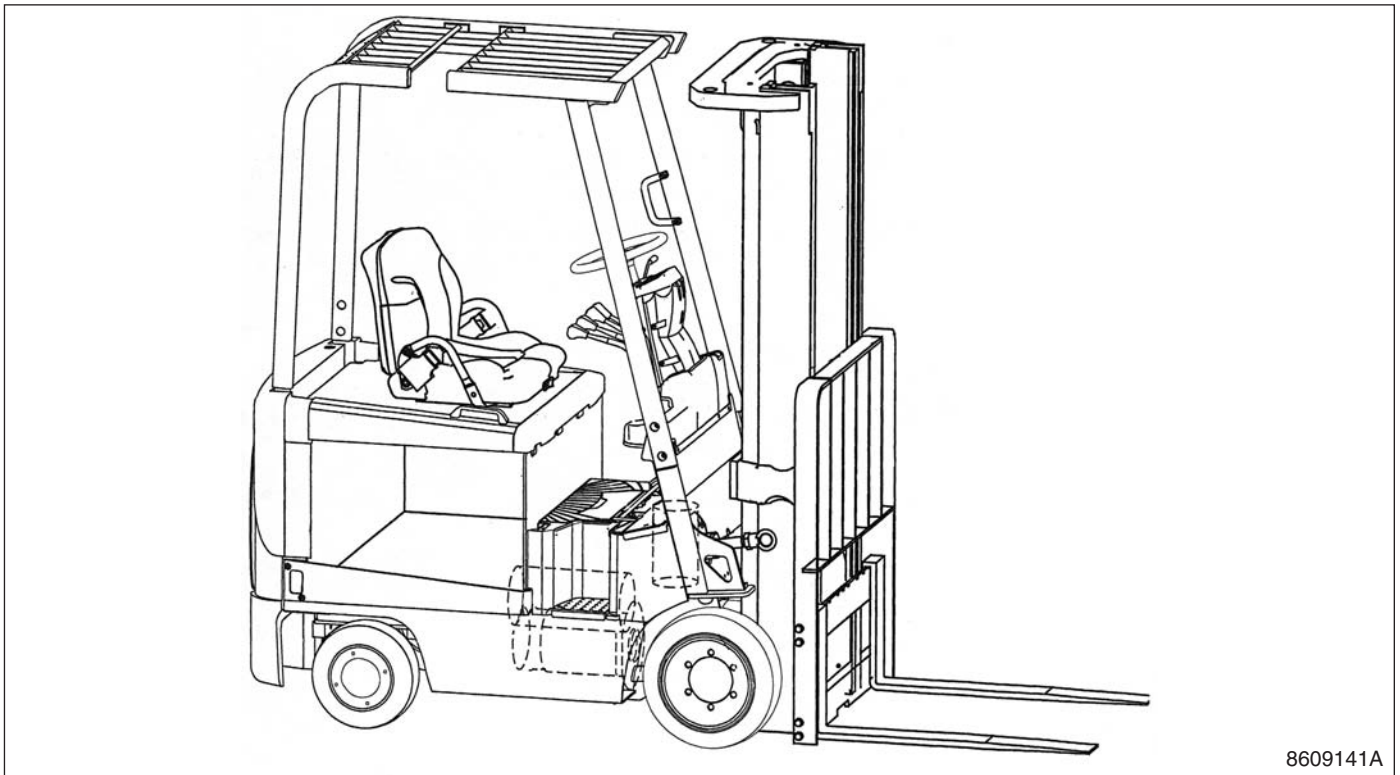
A4BC3-40200-up

FBC30LN

A4BC4-10200-up

Scope

This service manual deals with all components or systems of the Mitsubishi forklift trucks, except for the electrical system, which is covered in a separate manual.



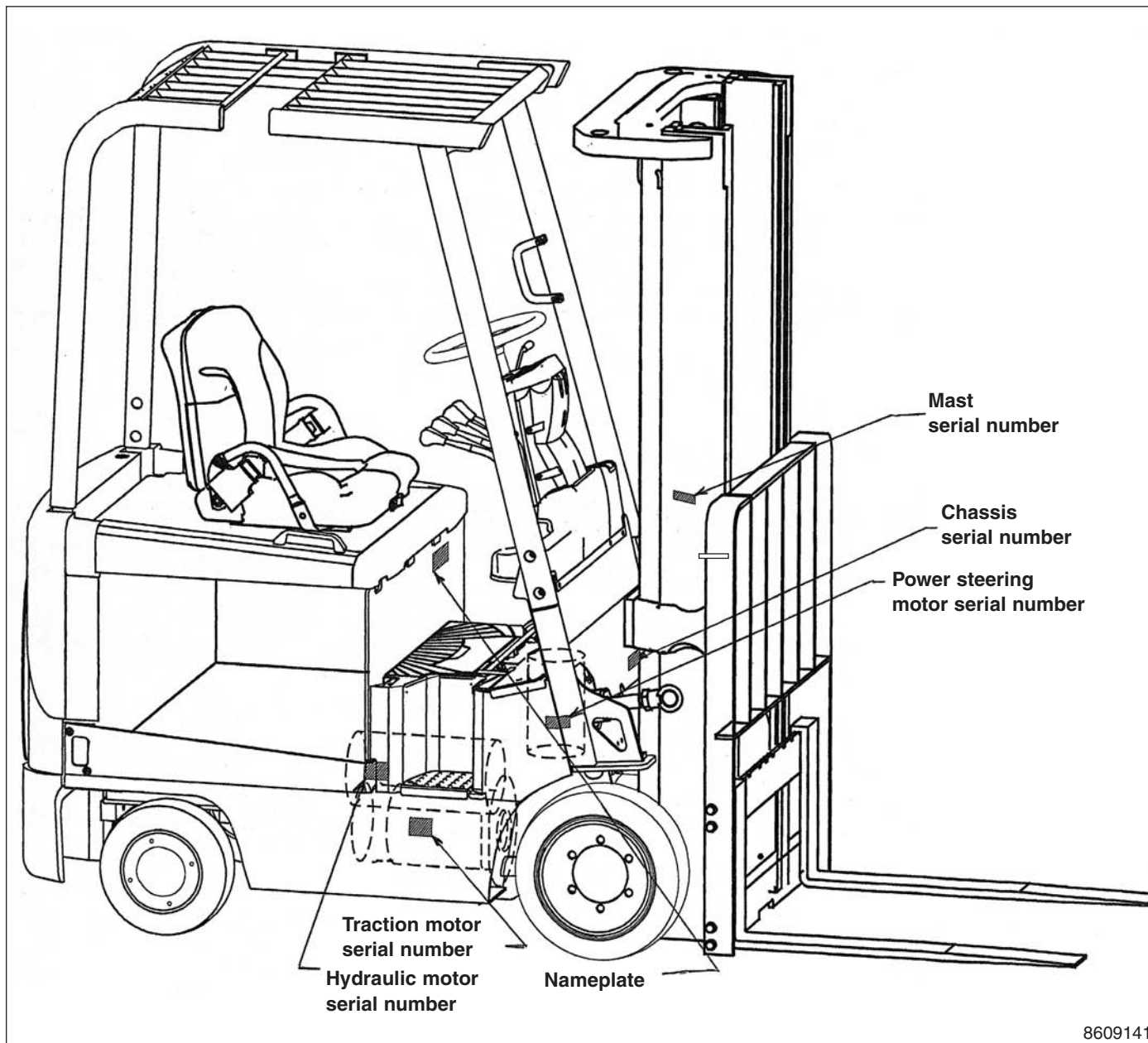
8609141A

Truck Models Covered

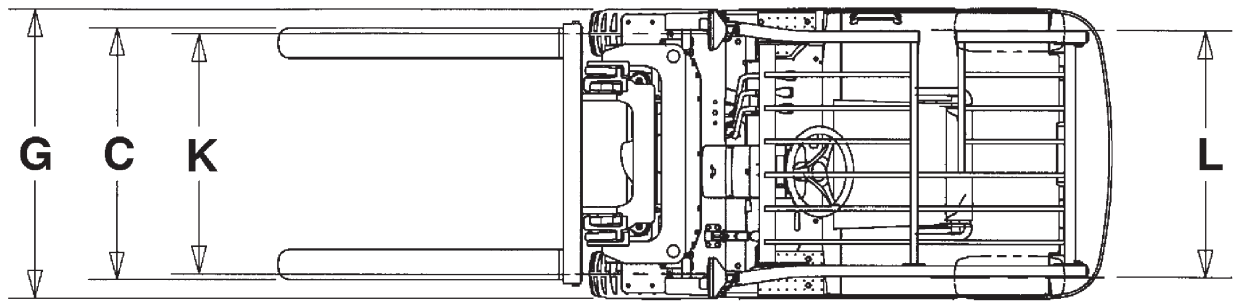
This service manual furnishes service and maintenance information for the following trucks.

Truck Model	Serial Number
FBC15N, FBC18N, FBC18LN	A4BC1-10200-up
	A4BC1-20200-up
	A4BC1-30200-up
FBC20N, FBC25N	A4BC2-10200-up
	A4BC2-20200-up
FBC25EN, FBC25LN, FBC30N	A4BC3-20200-up
	A4BC3-30200-up
	A4BC3-40200-up
FBC30LN	A4BC4-10200-up

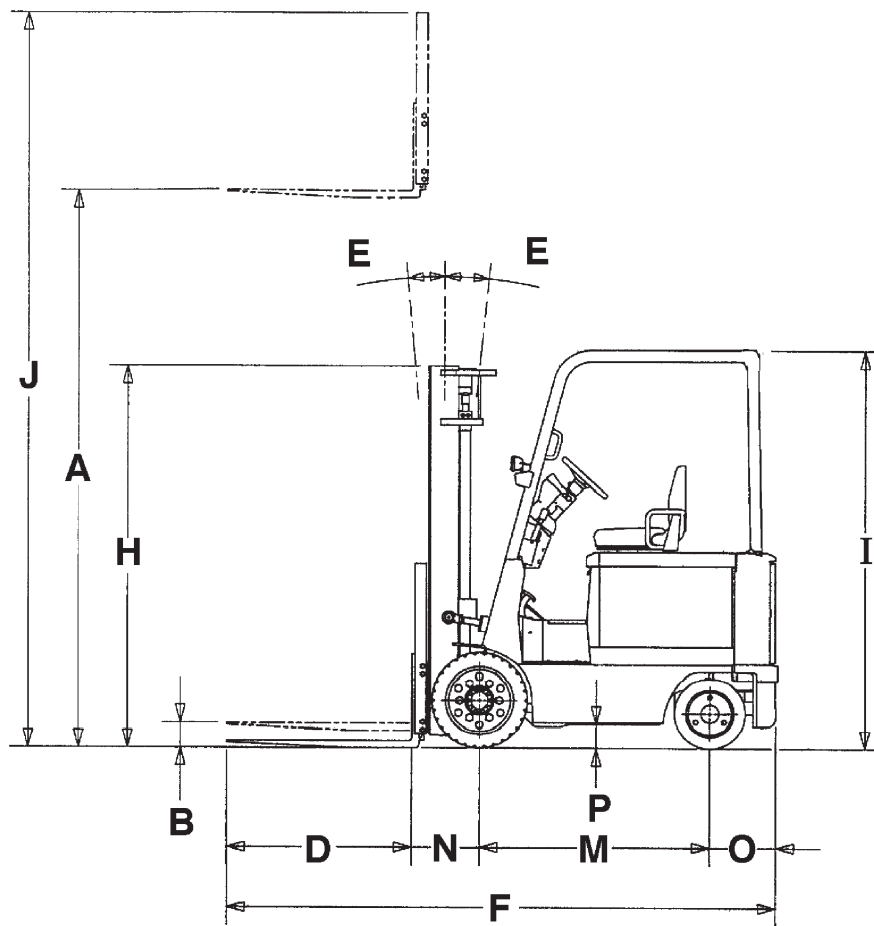
Nameplate and Serial Number Locations



Dimensions



8609142



8609143

Dimensions Chart

Ref#	Truck Model	FBC15N, FBC18N	FBC18LN	FBC20N, FBC25N	FBC25EN	FBC25LN	FBC30N	FBC30LN
A	Maximum Lift	3320 (130)	3320 (130)	3340 (131)	3340 (131)	3340 (131)	3310 (130)	3045 (119)
B	Free Lift	115 (4.5)	115 (4.5)	130 (5.1)	130 (5.1)	130 (5.1)	135 (5.3)	135 (5.3)
C	Maximum Fork Spacing (outside to outside)	818 (32.0)	818 (32.0)	818 (32.0)	818 (32.0)	818 (32.0)	818 (32.0)	818 (32.0)
D	Fork Length	1070 (42)	1070 (42)	1070 (42)	1070 (42)	1070 (42)	1070 (42)	1070 (42)
E	Tilt Angle (forward/backward)	5°/6°	5°/6°	5°/6°	5°/6°	5°/6°	5°/6°	5°/6°
F	Overall Length	3050 (120)	3125 (123)	3155 (124)	3255 (128)	3255 (128)	3325 (131)	3325 (131)
G	Overall Width (outside of tires)	945 (37)	970 (38)	1055 (41.5)	1055 (41.5)	1103 (43.5)	1103 (43.5)	1103 (43.5)
H	Overall Height (to top of mast, lowered)	2105 (83)	2105 (83)	2110 (83.5)	2110 (83.5)	2110 (83.5)	2110 (83.5)	2110 (83.5)
I	Overall Height (to top of overhead guard)	2180 (86)	2180 (86)	2210 (87)	2210 (87)	2210 (87)	2210 (87)	2210 (87)
J	Overall Height (to top of mast, extended)	4570 (180)	4570 (180)	4570 (180)	4570 (180)	4570 (180)	4550 (179)	4550 (179)
K	Tread (front)	793 (31)	818 (32)	875 (34.5)	875 (34.5)	900 (35.5)	900 (35.5)	900 (35.5)
L	Tread (rear)	826 (32.5)	826 (32.5)	900 (35.5)	900 (35.5)	900 (35.5)	900 (35.5)	900 (35.5)
M	Wheelbase	1170 (46)	1170 (46)	1280 (50.5)	1380 (54.5)	1380 (54.5)	1380 (54.5)	1380 (54.5)
N	Front Overhang	376 (14.8)	376 (14.8)	394 (15.5)	394 (15.5)	394 (15.5)	406 (16)	406 (16)
O	Rear Overhang	434 (17.2)	509 (20.2)	411 (16)	411 (16)	411 (16)	469 (18.5)	469 (18.5)
P	Underclearance (at center of wheelbase)	118 (4.6)	118 (4.6)	124 (4.9)	124 (4.9)	124 (4.9)	124 (4.9)	124 (4.9)

Unit: mm (in.)

General Information (Standard Models)

			Truck Model										
			Units	FBC15N	FBC18N	FBC18LN	FBC20N	FBC25N	FBC25EN	FBC25LN	FBC30N	FBC30LN	
Standard Controller			MHI SX Controller										
Standard Simplex Mast Size			meters	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	
Service Weight (standard axle)	Without Battery	kg (lb)	2095 (4620)	2335 (5140)	2595 (5720)	2685 (5920)	2870 (6330)	2695 (5940)	2865 (6320)	3335 (7353)	3530 (7770)		
	With Max. Battery		3295 (7270)	3535 (7790)	3795 (8370)	4285 (9470)	4420 (9880)	4495 (9940)	4665 (10320)	5135 (11353)	5330 (11770)		
Work Performance	Rated Capacity/ Load Center		kg/mm (lb/in.)	1350/600 (3000/24)	1600/600 (3500/24)	1800/600 (4000/24)	1800/600 (4000/24)	2275/600 (5000/24)	2275/600 (5500/24)	2500/600 (5000/24)	2725/600 (6000/24)	2950/600 (6500/24)	
	Maximum Fork Height		mm (in.)	33235 (131)			3340 (131)			3315 (131)	3345 (131)		
	Lift Speed (Rated Load)	36V	m/sec. (fph)	.38 (75)	.36 (71)	.34 (67)	.32 (63)	.28 (55)		.25 (49)	.23 (45)		
		48V		.53 (104)	.49 (96)	.47 (93)	.45 (89)	.38 (75)		.36 (71)	.31 (61)		
	Lowering Speed (rated load)			.50 (98)									
	Tilt Angle (forward/backward)		degrees	5° / 6°									
Free Lift		mm (in.)	115 (4.5)			130 (5.1)			135 (5.3)				
Traveling Performance	Travel Speed (Without Load)	36V	km/h	18 (11.2)	17.3 (10.8)		17.4 (10.8)			17.0 (10.6)	17.1 (10.6)		
		48V	(mph)	18.2 (11.3)									
	Minimum Turning Radius		mm (in.)	1790 (70.5)		1840 (72.5)			1990 (78.5)		2045 (80.5)		
Power Train	Traction Motor Output	36V	60min.	8.3 (6.2)			12.1 (9.0)			13.7 (10.2)			
		48V	HP(kW)	9.2 (6.8)			14.2 (10.6)			17.2 (12.8)			
	Transfer Gear	Type		Spur									
		Ratio		3.538			3.067						
	Reduction Gear	Type		Bevel									
		Ratio		4.571			5.0						
	Differential	Axle Housing		Banjo									
		Gear Type/	Gears	Straight Bevel/2									
Number		Pinions	Straight Bevel/2										

GENERAL INFORMATION

				Truck Model							
				Units	FBC15N	FBC18N	FBC18LN	FBC20N	FBC25N	FBC25EN	FBC25LN
Power Steering System	Type			Dynamic Load Sense							
	Turning Angle	Inside	Degrees	83°		83°					
		Outside		54°		56°					
	Steering Wheel Diameter		mm (in.)	328 (13)							
	Cylinder Minimum Test Pressure		kgf/cm ² (psi) [kPa]	107 (1522) [10,500]		163 (2320) [16,000]					
Brake System	Service Brake	Type		Self-Adjusting Duo-Servo							
		Inside Drum Diameter	mm (in.)	254 ^{+0.13} ₀ (10.00 ^{+0.0051} ₀)							
		Lining Thickness	mm (in.)	4.87 (0.19)		6 (0.24)					
		Master Cylinder ID	mm (in.)	22.22 (0.8748)							
		Wheel Cylinder ID		22.22 (0.8748)		28.58 (1.1252)					
	Park Brake	Type		Mechanical, Mounted on Front Wheels							
		Lever Operating Effort	kgf (lbf) [N]	25 to 30 (55 to 66) [245 to 295]							
	Traveling System	Mounting	Front Wheels		Fixed Type						
Rear Wheels			Center Pivot Type								
Wheel Alignment		Oscillation Angle	Degrees	3°							
		Camber		1°							

				Truck Model							
				Units	FBC15N	FBC18N	FBC18LN	FBC20N	FBC25N	FBC25EN	FBC25LN
Hydraulic System	Hydraulic Pump	Type		Gear							
		Make		Casappa		Parker Hydraulics, Inc.					
		Model		KP20–24.5		25R029					
		Displacement	cc (cu in.)	25 (1.526)		29 (1.77)					
	Control Valve	Make		Husco International							
		Model		9510 Sectional Valve							
	Interval	Relief	kgf /cm ²	AUX		158 (2250) [15513]					
		Pressure	(psi) [kPa]	Lift Tilt		185 (2630) [18133]					
	Flow Regulator Valve	Type		Variable							
		Regulated Flow Rate	liter (cu.in.) / min	45 (2746)		60 (3661)				68 (4150)	
Lift Cylinders	ID	mm (in.)	45 (1.77)		50 (1.97)			55 (2.17)			
Tilt Cylinders	ID		63 (2.48)		70 (2.75)			80 (3.15)			
Hydraulic Tank Capacity liter (Approx)		1 (US gal.)	8 (4.8)		24 (6.3)			30 (7.9)			
Mast and Forks	Mast			Roller type CL							
	Mast Dimensions (Flange Inside Width x THK x WEB THK)	Outer	mm (in.)	100 x 42 x 11 (3.94 x 0.59 x 0.47)		115 x 46 x 12 (4.53 x 0.79 x 0.51)					
		Inner		100 x 60 x 10 (3.94 x 0.67 x 0.47)		115 x 45 x 11 (4.53 x 0.83 x 0.51)					
	Main Rollers	Type		#6308 Ball Bearing		#6309 Ball Bearing					
		Diameter x Width		100 x 27 (3.94 x 1.18)		115 x 30 (4.53 x 1.58)			115 x 30 (3.94 x 1.18)		
	Side Rollers	Type		Lubricating type needle roller bearing							
		Diameter x Width	mm (in.)	42 x 36 (1.65 x 1.42)							
	Lift Chains			BL534		BL634			BL834		
	Forks (Lgth x Wdth x Thk)		mm (in.)	1070x100x35 (36x4x1.3)		1070 x100 x40 (42 x 3.9 x 1.6)			1070 x 125 x 45 (42 x 5 x 1.8)		
	Fork Spacing (out to out) min/max			240 / 818 (9.4/32)		240 / 920			285 / 960		
Battery	Voltage			36/48	36/48	36/48	36/48	36/48	36/48		
	Amp Hours (6 hr. rate)		36V	900		1400					
			48V	700		1100					
	Compartment Dimensions	Height-Center	mm (in.)	598 (23.6)							
		Height-Edges		589 (23.2)							
		Length		705 (27.8)		772 (30.4)			872 (34.3)		
		Width		903 (35.5)		1000 (39.4)					
	Weight (Min/Max)		kg (lb)	750/1200 (1650/2650)		1000/1600 (2200/3550)	1315/1600 (2900/3550)	1400/1800 (3100/4000)			