



SERVICE MANUAL

EV100ZX™ Controller

2FBC15	&	2FBC18	A2BC1-20001-up
2FBC20	&	2FBC25	A2BC2-20001-up
2FBC25E	&	2FBC30	A2BC3-20001-up

Optional TR3000™ Controller

2FBC15	&	2FBC18	A2BC1-60001-up
2FBC20	&	2FBC25	A2BC2-60001-up
2FBC25E	&	2FBC30	A2BC3-60001-up

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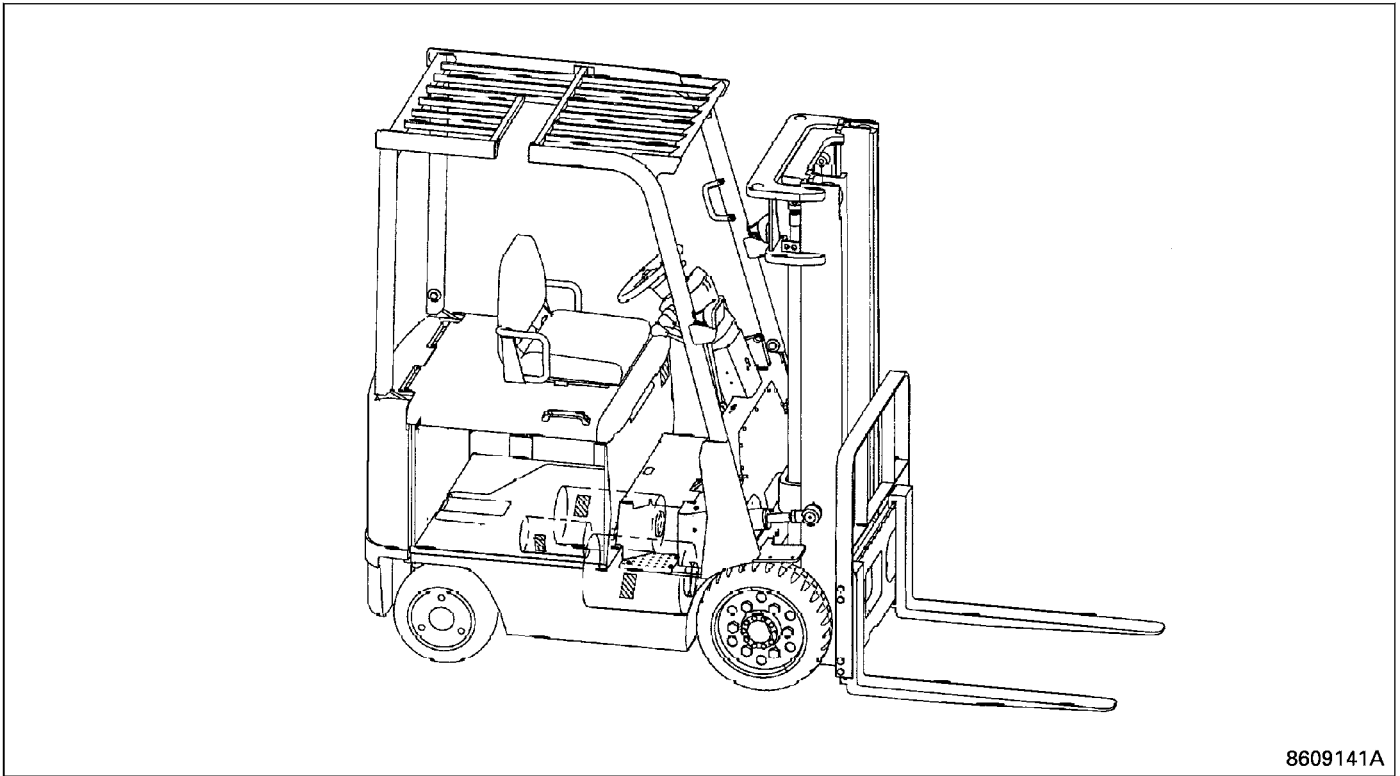
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Scope

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.



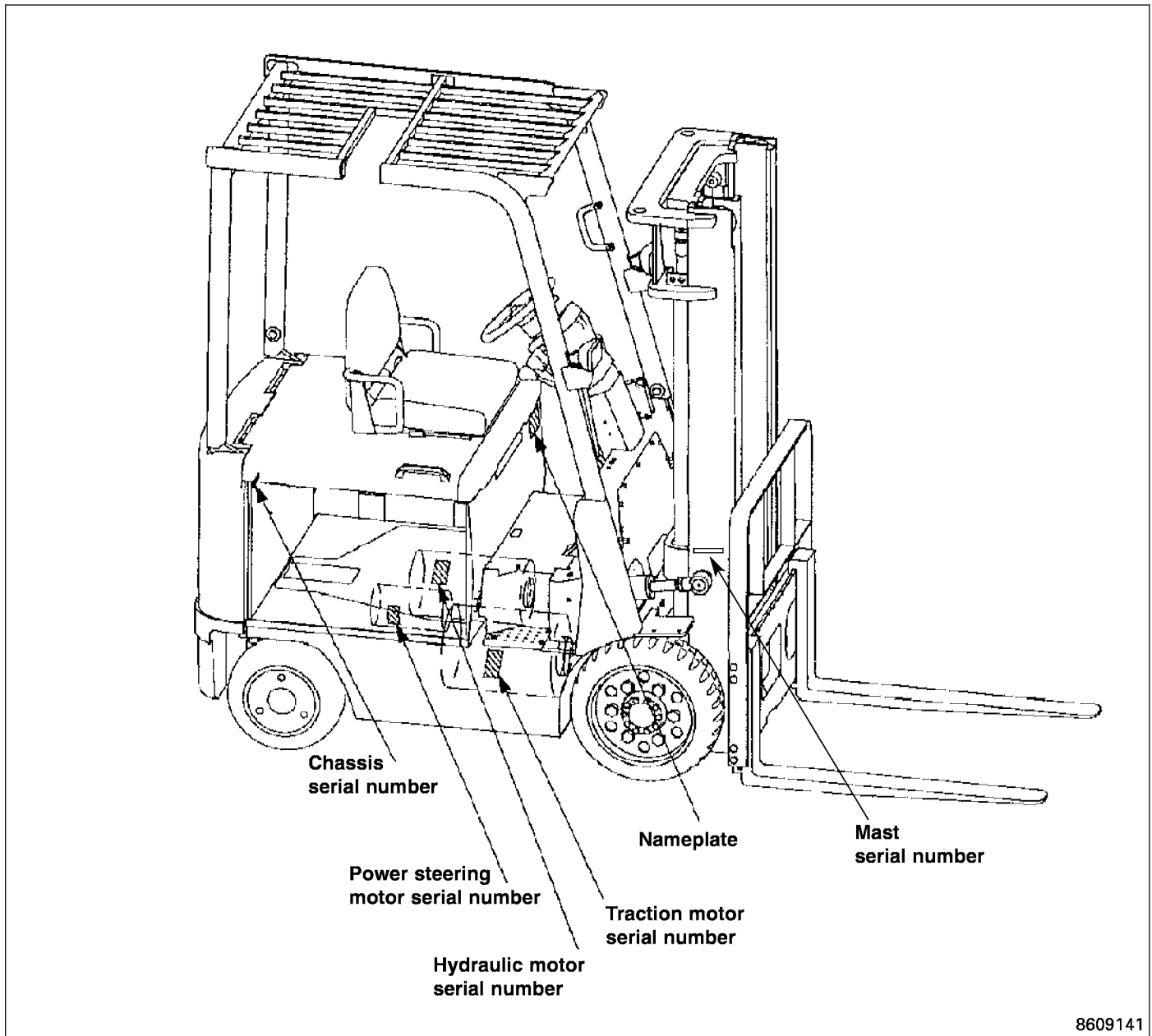
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Truck Models Covered

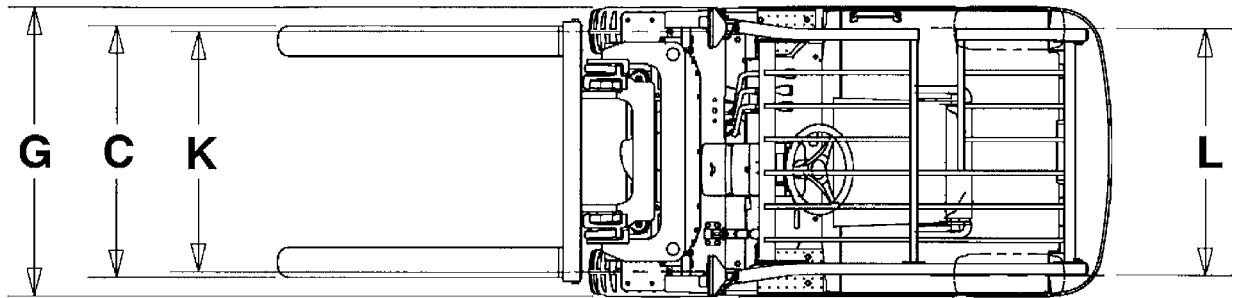
This service manual furnishes service and maintenance information for the following trucks.

Truck Model	Serial Number
Serial Numbers for Trucks With EV100ZX™ Controller	
2FBC15, 2FBC18	A2BC1-20001-up
2FBC20, 2FBC25	A2BC2-20001-up
2FBC25E, 2FBC30	A2BC3-20001-up
Serial Numbers for Trucks With Optional TR3000™ Controller	
2FBC15, 2FBC18	A2BC1-60001-up
2FBC20, 2FBC25	A2BC2-60001-up
2FBC25E, 2FBC30	A2BC3-60001-up

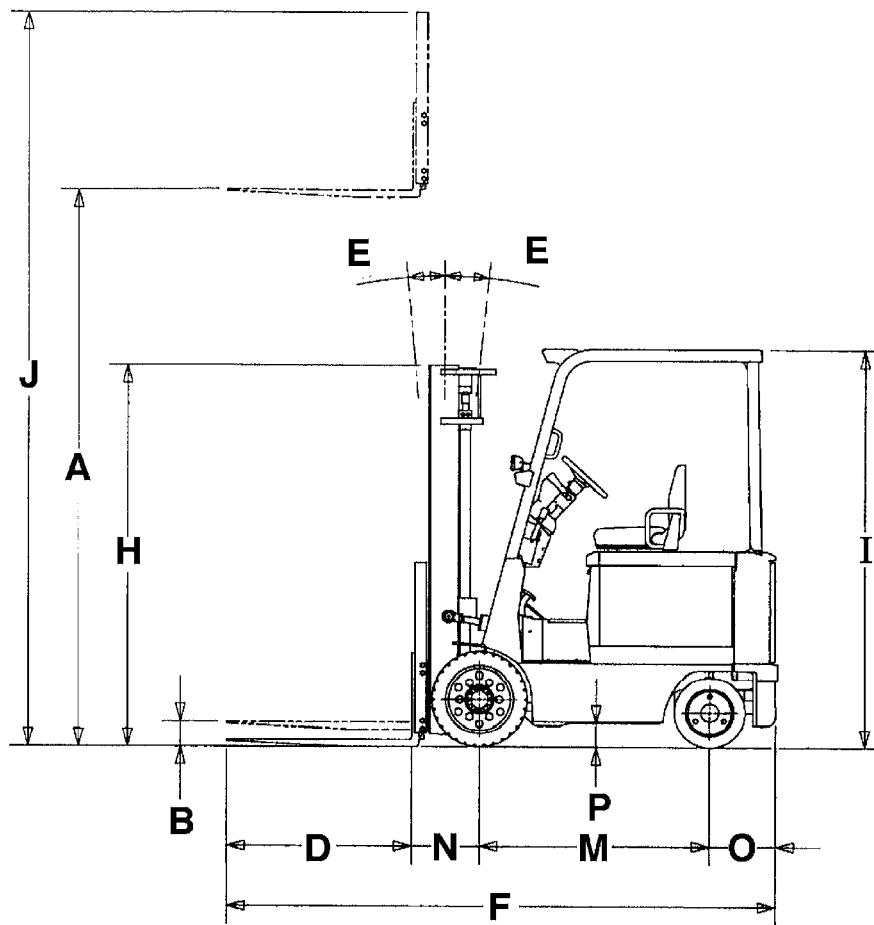
Nameplate and Serial Number Locations



Dimensions



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GENERAL INFORMATION

Dimensions Chart

Ref#	Truck Model	2FBC15	2FBC18	2FBC20	2FBC25	2FBC25E	2FBC30
A	Maximum Lift	3340 (131.5)	3340 (131.5)	3345 (131.5)	3345 (131.5)	3345 (131.5)	3245 (128.0)
B	Free Lift	105 (4.1)	105 (4.1)	100 (4.0)	100 (4.0)	100 (4.0)	110 (4.3)
C	Maximum Fork Spacing (outside to outside)	818 (32.2)	818 (32.2)	893 (35.2)	893 (35.2)	893 (35.2)	958 (37.7)
D	Fork Length	910 (35.8)	910 (35.8)	1070 (42.1)	1070 (42.1)	1070 (42.1)	1070 (42.1)
E	Tilt Angle (forward/backward)	5°/6°					
F	Overall Length	2876 (113.2)	2920 (115)	3101 (122.1)	3131 (123.3)	3201 (126.0)	3317 (130.6)
G	Overall Width (outside of tires)	945 (37.2)	945 (37.2)	1053 (41.5)	1053 (41.5)	1053 (41.5)	1103 (43.4)
H	Overall Height (to top of mast, lowered)	2115 (83.3)	2115 (83.3)	2110 (83.1)	2110 (83.1)	2110 (83.1)	2065 (81.3)
I	Overall Height (to top of overhead guard)	2180 (85.8)	2180 (85.8)	2209 (87.0)	2209 (87.0)	2209 (87.0)	2209 (87.0)
J	Overall Height (to top of mast, extended)	4560 (179.5)	4560 (179.5)	4560 (179.5)	4560 (179.5)	4560 (179.5)	4475 (176.2)
K	Tread (front)	793 (31.2)	793 (31.2)	875 (34.5)	875 (34.5)	875 (34.5)	900 (35.4)
L	Tread (rear)	826 (32.5)	826 (32.5)	922 (36.3)	897 (35.3)	897 (35.3)	897 (35.3)
M	Wheelbase	1170 (46.1)	1170 (46.1)	1280 (50.4)	1280 (50.4)	1380 (54.3)	1380 (54.3)
N	Front Overhang	366 (14.4)	366 (14.4)	371 (14.6)	371 (14.6)	371 (14.6)	387 (15.2)
O	Rear Overhang	430 (16.9)	474 (18.7)	380 (14.9)	410 (16.1)	380 (14.9)	480 (18.9)
P	Underclearance (at center of wheelbase)	118 (4.7)	118 (4.7)	124 (4.9)	124 (4.9)	124 (4.9)	124 (4.9)

Unit: mm (in.)

General Information (Standard Models)

			Truck Model					
			Units	2FBC15	2FBC18	2FBC20	2FBC25	2FBC25E
Standard Controller			EV100ZX Controller					
Standard Simplex Mast Size		meters	3.3	3.3	3.3	3.3	3.3	3.2
Service Weight (standard axle)	Without Battery	kg (lb)	2070 (4570)	2310 (5100)	2700 (5940)	2880 (6350)	2700 (5940)	3330 (7320)
	With Max. Battery		3270 (7220)	3510 (7750)	4200 (9250)	4480 (9880)	4500 (9910)	5130 (11290)
Rated Capacity/ Load Center		kg/mm (lb/in.)	1500/500 (3000/24)	1750/500 (3500/24)	2000/500 (4000/24)	2500/500 (5000/24)	2500/500 (5000/24)	3000/500 (6000/24)
Maximum Fork Height		mm (in.)	3340 (131)			3345 (132)		3245 (128)
Lift Speed (Rated Load)	36V	m/sec. (fph)	0.29 (57)		0.31 (61)	0.27 (53)		0.23 (45)
	48V		0.36 (71)		0.38 (75)	0.34 (67)		0.27 (53)
Lowering Speed (rated load)			0.52 (102)			0.50 (98)		
Tilt Angle (forward/backward)		degrees	5° / 6°					
Free Lift		mm (in.)	105 (4.1)		100 (4.0)			110 (4.3)
Traveling Performance	Travel Speed (Without Load)	36V	13.7 (8.5)		14.5 (9.0)			13.7 (8.5)
		48V	16.9 (10.5)		19.3 (12.0)	17.7 (11.0)		
	Minimum Turning Radius	mm (in.)	1750 (68.9)	1788 (70.4)	1854 (73)	1880 (74)	1956 (77)	2045 (80.5)
Power Train	Traction Motor Output	36V	8.4 (6.1)		13.5 (10.1)			
		48V	11.2 (8.2)		18.0 (13.4)			
	Transfer Gear	Type	Spur					
		Ratio	3.538			3.067		
	Reduction Gear	Type	Skew Bevel					
		Ratio	4.571			5.0		
	Differential	Axle Housing		Banjo				
Gear Type/ Number		Gears	Straight Bevel/2					
		Pinions	Straight Bevel/2					

GENERAL INFORMATION

			Truck Model				
			Units	2FBC15	2FBC18	2FBC20	2FBC25
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 0.13	(10.00 + ₀ 0.0051)		
		Lining Thickness	mm (in.)	4.87 (0.19)	6 (0.24)		
		Master Cylinder ID	mm (in.)	19.05 + ₀ .052 (0.7500 + ₀ .00205)	19.05 + ₀ .052 (0.7500 + ₀ .00205)		
	Wheel Cylinder ID	mm (in.)	22.22 + ₀ .052 (0.8748 + ₀ .00205)	28.58 + ₀ .052 (1.1252 + ₀ .00205)			
	Park Brake	Type		Mechanical, Mounted on Front Wheels			
Lever Operating Effort		kgf (lbf) [N]	25 to 30 (55 to 66) [245 to 294]				
Traveling System	Mounting	Front Wheels		Fixed Type			
		Rear Wheels		Center Pivot Type			
	Wheel Alignment	Oscillation Angle	Degrees	3°			
Camber		1°					

GENERAL INFORMATION

		Truck Model							
		Units	2FBC15	2FBC18	2FBC20	2FBC25	2FBC25E	2FBC30	
Hydraulic System	Hydraulic Pump	Type		Gear					
		Make		Ultra Hydraulics, Inc.					
		Model		1SX230		2SR029			
		Displacement	cc (cu in.)	23.0 (1.40)/rev.		29.0 (1.77)/rev.			
	Control Valve		Make		Kayaba				
			Model		KVSF65				
		Relief Pressure	kgf /cm ² (psi) [kPa]	185 + ₀ ⁵ (2631 + ₀ ⁷¹) [18142 + ₀ ⁴⁹⁰]					
	Flow Regulator Valve	Type		Variable					
		Regulated Flow Rate	liter (cu.in.) / min	50 ± 3 (3051 ± 183)		65 ± 3 (3967 ± 183)		50 ± 3 (3051 ± 183)	
	Lift Cylinders	ID	mm (in.)	45 (1.77)		50 (1.97)		55 (2.17)	
Stroke		1650 (64.96)			1600 (62.99)				
Tilt Cylinders	ID	mm (in.)	63 (2.48)		70 (2.75)		80 (3.15)		
	Stroke		79 (3.11)		81 (3.19)				
Hydraulic Tank Capacity (Approx)		liter (US gal.)	18 (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 15 x 12 (3.94 x 0.59 x 0.47)		115 x 20 x 13 (4.53 x 0.79 x 0.51)		115 x 21 x 13 (4.53 x 0.83 x 0.51)	
		Inner		100 x 17 x 12 (3.94 x 0.67 x 0.47)		115 x 20 x 13 (4.53 x 0.83 x 0.51)			
	Main Rollers	Type		#6308 Ball Bearing		#6309 Ball Bearing			
		Diameter x Width		100 x 30 (3.94 x 1.18)		115 x 35 (4.53 x 1.58)		100 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.)	920x100x34 (36x4x1.3)		920x100x37 (36x4x1.5)		1070 x125 x42 (42 x 5 x 1.7)	1070 x 125 x 50 (42 x 5 x 2.0)	
Fork Spacing (out to out)			200 to 820 (7.9 to 32.3)		250 to 920 (9.8 to 36.2)		250 to 960 (9.8 to 37.8)		
Battery	Voltage		36/48	36/48	36/48	36/48	36/48	36/48	
	Amp Hours (6 hr. rate)		36V		900		1300		1300
			48V		700		800		1000
	Compartment Dimensions	Height-Center	mm (in.)	600 (23.6)					
		Height-Edges		594 (23.4)					
		Length		708 (27.9)		775 (30.5)		875 (34.4)	
Width		910 (35.8)		1015 (40.0)					
Weight (Min/Max)		kg (lb)	750/1200 (1650/2650)		1000/1500 (2200/3310)		1320/1600 (2900/3530)		1400/1800 (3100/3970)

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