

SM181
BED07E1-01

FORKLIFT TRUCK (DX20 SERIES)

FG50/60/70-7

FD50E/60E/70E-7

FD50/60/70/80-7

KOMATSU FORKLIFT USA

SHOP MANUAL

(DX20 SERIES)

FG50/60/70-7

FD50E/60E/70E-7

FD50/60/70/80-7

MACHINE MODEL	SERIAL NO.
FG50/60/70-7	40001 and up
FD50E/60E/70E-7	40001 and up
FD50/60/70/80-7	40001 and up

PRECAUTIONS WHEN PERFORMING THE SERVICE WORK

Always pay attention to "Safety" before starting any work — this is important.

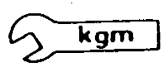
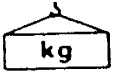
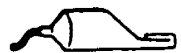
Never attempt any work where danger to yourself or to other persons.

Whenever work requiring safety precautions are described in this manual, a flag mark  inserted, always make double sure that safety measures are taken.

Other unmarked work, should always be performed after studying and using your common sense to prevent accidents.

DESCRIPTION OF THE SYMBOLS

The symbols described below are used in this manual for convenience and better understanding.

Symbol	Item	Description
	Safety	Special safety precautions are needed to perform the work.
	Note	Special technical precautions are needed to perform the work.
	Tightening torque	Fastening parts that require specified tightening force when assembling.
	Weight	Weight of parts or systems
	Coat	Places to be coated with adhesives, etc. when assembling

SECTION INDEX

00. FOREWORD

10. GENERAL AND SPECIFICATIONS

20. TESTING AND ADJUSTING

30. REMOVAL AND INSTALLATION

40. DISASSEMBLY AND ASSEMBLY

50. MAINTENANCE STANDARD

60. STRUCTURE AND FUNCTION

70. TROUBLESHOOTING

80. CONVERSION TABLE



10. GENERAL AND SPECIFICATIONS

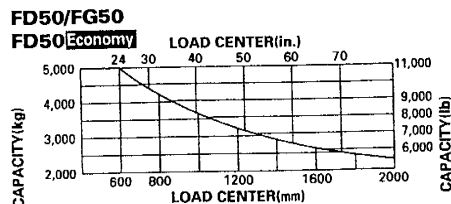
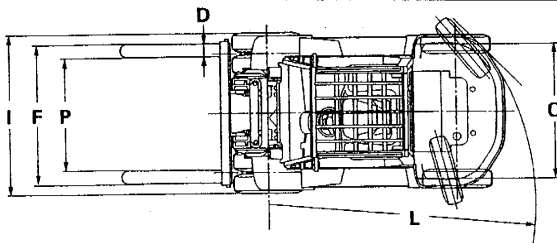


Specifications	10- 2
Periodic replacement of consumable parts	10- 8
Safety items for maintenance	10- 9
Standard tightening torque for bolts	10-17
Standard tightening torque for pipe	10-18

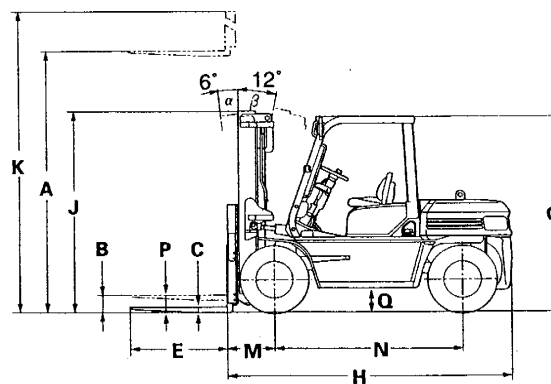
SPECIFICATIONS

STANDARD MODEL

	Model	Manufacturer's Designation				FD50-7	FG50-7	
Characteristics	1 Capacity	Capacity at 600mm (24") Load Center				kg (lb) 5000 (11,000)		
	2 Power Type	Diesel, Gasoline, LPG				Diesel	Gasoline	
	3 Tyre Type	Solid, Pneumatic				Pneumatic		
	4 Operator Type	Driver Standing, Sitting				Sitting		
	5 Wheel (*=driven)	Number Front/Rear				2*/2		
Dimensions	6 Lift	Std. Fork Height / Free Lift		mm (in)	A/B	3000(118) / 210(8.3)		
	7 Forks	Thickness x Width x Length		mm (in)	C x D x E	55 x 150 x 1220 (2.2 x 5.9 x 48.0)		
	8 Forks Opening Range	Max. / Min.		mm (in)	F	1700/300 (66.9/11.8)		
	9 Tilting Angle	Forward / Backward		degree	α/β	6/12		
	Overall Dimensions	10 Height, Overhead Guard			mm (in)	G	2440 (96.1)	
		11 Length to Face of Forks			mm (in)	H	3470 (136.6)	
		12 Width			mm (in)	I	1880 (74.0)	
		13 Height, Mast Lowered			mm (in)	J	2500 (98.4)	
		14 Height, Mast Extended			mm (in)	K	4350 (171.2)	
	15 Turning Radius	Outside		mm (in)	L	3250 (127.9)		
	16 Load Distance	From Center of Front Axle		mm (in)	M	570 (22.4)		
	17 Right Angle Stacking Aisle	Plus Load Length		mm (in)		5240 (206.3)		
Performance	Speeds	Travel	Forward & Reverse	Loaded	1st km/h (mph)	11.0 (6.8)		
					2st km/h (mph)	30.0 (18.6) 28.0 (17.4)		
				Unloaded	1st km/h (mph)	12.0 (7.5)		
					1nd km/h (mph)	32.0 (19.9) 31.0 (19.3)		
		22	Lifting	Loaded / Unloaded		mm/s (fpm)	530/560 (104/110)	420/430 (83/85)
	23	Lowering	Loaded / Unloaded		mm/s (fpm)	550/580 (108/114)		
	24 Max. Drawbar Pull					kN (lb)	61 (13,820)	55 (12,360)
Weights	25 Grade ability					%	60	52
	26 Service Weight					kg (lb)	7540 (16,620)	7340 (16,180)
Chassis & Wheels	27 Axle Loading	Loaded	Front / Rear		kg (lb)	11200/1340(24,690/2,950)	11110/1240(24,500/2,730)	
	28	Unloaded	Front / Rear		kg (lb)	3660/3880(8,070/8,550)	3560/3780(7,850/8,330)	
	29 Tyre Size	Front / Rear				300-15-18PR(I)/8.25-15-12PR(I)		
	30 Wheelbase					mm (in)	M 2300 (90.5)	
	31 Tread	Front / Rear				mm (in)	O 1580/1640 (62.2/64.6)	
	32 Ground clearance	Lowest Point				mm (in)	P 225 (8.8)	
	33	Center of Frame				mm (in)	Q 280 (11.0)	
	34 Brakes	Service / Parking				Hydraulic, Powered / Mechanical		
	35 Steering	Type				Power Steering		
	36 Battery	Voltage / Capacity 5-Hour Rating				V/Ah	24/56	12/48
Drive	37 Make / Model					KOMATSU 6D102E NISSAN TB42		
	38 Rated Horsepower / RPM (SAE Gross)			kW (HP) @rpm	73 (100) @2250	66 (88) @2300		
	39 Internal	Max. Torque / RPM (SAE Gross)		N.m (lb.ft) @rpm	353 (260) @1600	275 (203) @1900		
	40 Combustion	Number of Cylinders / Displacement		cm³ (cu.in)	6/5880 (359)	6/4169 (254)		
	41 Engine	Cylinder Bore x Stroke		mm (in)	102x120 (4.0x4.7)	96x96 (3.8x3.8)		
	42	Fuel Tank Capacity		Ltr (U.S.gal)	140 (37)			
	43	Air Cleaner			Cyclone			
	44 Clutch	Type				Torque Converter		
	45 Transmission	Type				TOROFLOW		
	46 Hydraulic	Max. Pressure / Tank Capacity		bar(psi) / Ltr(U.S.gal)	181 (2,630) / 70 (18)			



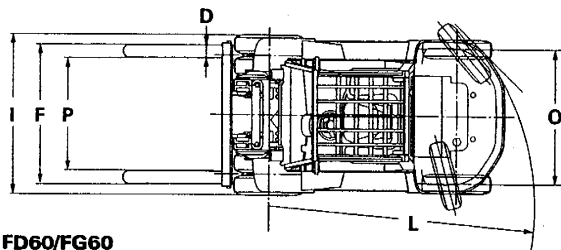
Capacities shown are for trucks equipped with 2-stage view mast up through 5000mm (197in.) maximum fork height, 1700mm (66.9in.) carriage, 1220mm (48in.) forks. Contact your distributor or dealer for capacity information with other equipment.



GENERAL AND SPECIFICATIONS

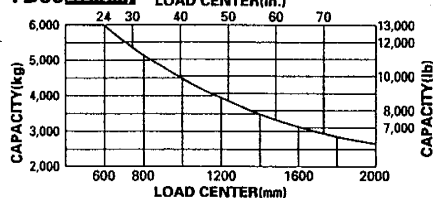
SPECIFICATIONS

Characteristics	Model		Manufacturer's Designation		FD60-7	FG60-7
	1	Capacity	Capacity at 600mm (24") Load Center	kg (lb)	6000 (13,200)	
Dimensions	2	Power Type	Diesel, Gasoline, LPG		Diesel	Gasoline
	3	Tyre Type	Solid, Pneumatic		Pneumatic	
	4	Operator Type	Driver Standing, Sitting		Sitting	
	5	Wheel (*=driven)	Number Front/Rear		4*/2	
	6	Lift	Std. Fork Height / Free Lift	mm (in)	A/B	3000(118) / 215(8.5)
	7	Forks	Thickness x Width x Length	mm (in)	C x D x E	60 x 150 x 1220 (2.4 x 5.9 x 48.0)
	8	Forks Opening Range	Max. / Min.	mm (in)	F	1700/300 (66.9/11.8)
	9	Tilting Angle	Forward / Backward	degree	α/β	6/12
	10	Overall Dimensions	Height, Overhead Guard	mm (in)	G	2440 (96.1)
	11		Length to Face of Forks	mm (in)	H	3475 (136.8)
Performance	12		Width	mm (in)	I	1960 (77.2)
	13		Height, Mast Lowered	mm (in)	J	2500 (98.4)
	14		Height, Mast Extended	mm (in)	K	4350 (171.2)
	15	Turning Radius	Outside	mm (in)	L	3250 (127.9)
	16	Load Distance	From Center of Front Axle	mm (in)	M	575 (22.6)
	17	Right Angle Stacking Aisle	Plus Load Length	mm (in)		5245 (206.5)
	18	Speeds	Travel	1st km/h (mph)		11.0 (6.8)
	19		Forward & Reverse	2st km/h (mph)	30.0 (18.6)	28.0 (17.4)
	20		Loaded	1st km/h (mph)		12.0 (7.5)
	21		Unloaded	1st km/h (mph)		31.0 (19.3)
Weights	22	Lifting	Loaded / Unloaded	mm/s (fpm)	500/560 (98/110)	420/430 (83/85)
	23		Lowering	Loaded / Unloaded	mm/s (fpm)	550/580 (108/114)
	24	Max. Drawbar Pull		kN (lb)	59 (13,270)	54 (12,130)
	25	Grade ability		%	47	44
	26	Service Weight		kg (lb)	8360 (18,430)	8200 (18,080)
	27	Axle Loading	Loaded	Front / Rear	12790/1507 (28,200/3,460)	12710/1500 (28,020/3,310)
	28		Unloaded	Front / Rear	3730/4630 (8,220/10,210)	3640/4560 (8,020/10,050)
	29	Tyre Size	Front / Rear		8.25-15-12PR(I)/8.25-15-12PR(I)	
	30	Wheelbase		mm (in)	M	2300 (90.5)
	31	Tread	Front / Rear	mm (in)	O	1450/1640 (57.1/64.6)
Chassis & Wheels	32	Ground clearance	Lowest Point	mm (in)	P	225 (8.8)
	33		Center of Frame	mm (in)	Q	285 (11.2)
	34	Brakes	Service / Parking			Hydraulic, Powered / Mechanical
	35	Steering	Type			Power Steering
	36	Battery	Voltage / Capacity 5-Hour Rating	V/Ah	24/56	12/48
	37	Internal Combustion Engine	Make / Model		KOMATSU 6D102E	NISSAN TB42
	38		Rated Horsepower / RPM (SAE Gross)	kW (HP) @rpm	73 (100) @2250	66 (88) @2300
	39		Max. Torque / RPM (SAE Gross)	N.m (lb.ft) @rpm	353 (260) @1600	275 (203) @1900
	40		Number of Cylinders / Displacement	cm³ (cu.in)	6/5880 (359)	6/4169 (254)
	41	Fuel Tank Capacity	Cylinder Bore x Stroke	mm (in)	102x120 (4.0x4.7)	96x96 (3.8x3.8)
Drive	42		Fuel Tank Capacity	Ltr (U.S. gal)	140 (37)	
	43	Air Cleaner				Cyclone
	44	Clutch	Type			Torque Converter
	45	Transmission	Type			TORQFLOW
	46	Hydraulic	Max. Pressure / Tank Capacity	bar(psi) / Ltr(U.S. gal)	181 (2,630) / 70 (18)	

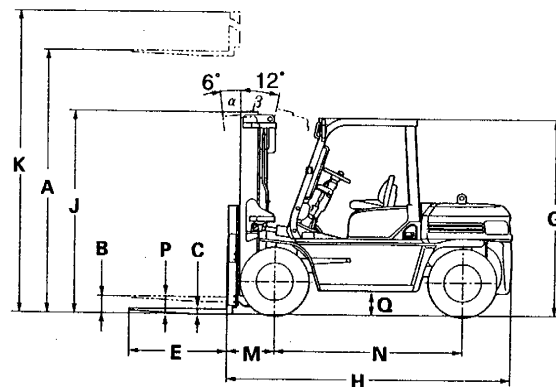


FD60/FG60

FD60 Economy



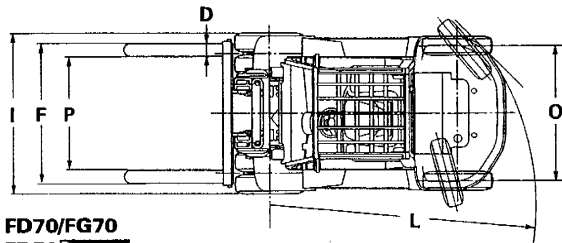
Capacities shown are for trucks equipped with 2-stage mast up through 5500mm (217in.) maximum fork height, 1700mm (68in.) carriage, 1220mm (48in.) forks. Contact your distributor or dealer for capacity information with other equipment.



GENERAL AND SPECIFICATIONS

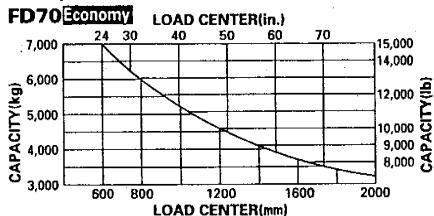
SPECIFICATIONS

Model		Manufacturer's Designation				FD70-7	FG70-7	
Characteristics	1 Capacity	Capacity at 600mm (24") Load Center				kg (lb) 7000 (15,400)		
	2 Power Type	Diesel, Gasoline, LPG				Diesel	Gasoline	
	3 Tyre Type	Solid, Pneumatic				Pneumatic		
	4 Operator Type	Driver Standing, Sitting				Sitting		
Dimensions	5 Wheel (*=driven)	Number	Front/Rear		4*/2			
	6 Lift	Std. Fork Height / Free Lift		mm (in)	A/B	3000(118) / 220(8.7)		
	7 Forks	Thickness x Width x Length		mm (in)	C x D x E	65 x 150 x 1220 (2.5 x 5.9 x 48.0)		
	8 Forks Opening Range	Max. / Min.		mm (in)	F	1700/300 (66.9/11.8)		
	9 Tilting Angle	Forward / Backward		degree	α/β	6/12		
	Overall Dimensions	10 Height, Overhead Guard	mm (in)		G	2440 (96.1)		
		11 Length to Face of Forks	mm (in)		H	3565 (140.3)		
		12 Width	mm (in)		I	1960 (77.2)		
		13 Height, Mast Lowered	mm (in)		J	2585 (101.8)		
	14 Height, Mast Extended	mm (in)		K	4350 (171.2)			
	15 Turning Radius	Outside		mm (in)	L	3350 (131.9)		
	16 Load Distance	From Center of Front Axle		mm (in)	M	585 (23.0)		
	17 Right Angle Stacking Aisle	Plus Load Length		mm (in)		5355 (210.8)		
Performance	Speeds	Travel	Forward & Reverse	Loaded	1st km/h (mph)		11.0 (6.8)	
					2st km/h (mph)		28.0 (17.4)	
		Unloaded	1st km/h (mph)		12.0 (7.5)			
			1nd km/h (mph)		31.0 (19.3)			
	22	Lifting	Loaded / Unloaded		mm/s (fpm)	450/500 (89/98)	365/390 (72/77)	
	23	Lowering	Loaded / Unloaded		mm/s (fpm)	500/550 (98/108)		
Weights	24 Max. Drawbar Pull					kN (lb) 59 (13,270)	55 (12,340)	
	25 Grade ability					% 39	38	
	26 Service Weight					kg (lb) 9150 (20,170)	9000 (19,840)	
Chassis & Wheels	27 Axle Loading	Loaded	Front / Rear		kg (lb)	14310/1840(31,550/4,060)	14230/1780(31,370/3,920)	
		Unloaded	Front / Rear		kg (lb)	3710/5440(8,180/11,990)	3620/5380(7,980/11,860)	
	29 Tyre Size	Front / Rear		8.25-15-14PR(I)/8.25-15-14PR(I)				
	30 Wheelbase			mm (in)	M	2500 (98.4)		
	31 Tread	Front / Rear		mm (in)	O	1540/1700 (60.6/66.9)		
	32 Ground clearance	Lowest Point		mm (in)	P	225 (8.8)		
		Center of Frame		mm (in)	Q	285 (11.2)		
	34 Brakes	Service / Parking		Hydraulic, Powered / Mechanical				
	35 Steering	Type		Power Steering				
	36 Battery	Voltage / Capacity 5-Hour Rating		V/Ah		24/56	12/48	
Drive	37	Make / Model		KOMATSU S6D102E				NISSAN TB42
	38	Rated Horsepower / RPM (SAE Gross)		kW (HP) @rpm	73 (100) @2250			66 (88) @2300
	39 Internal	Max. Torque / RPM (SAE Gross)		N.m (lb.ft) @rpm	353 (260) @1600			275 (203) @1900
	40 Combustion	Number of Cylinders / Displacement		cm³ (cu.in)	6/5880 (359)			6/4169 (254)
	41 Engine	Cylinder Bore x Stroke		mm (in)	102x120 (4.0x4.7)			96x96 (3.8x3.8)
	42	Fuel Tank Capacity		Ltr (U.S.gal)	140 (37)			
	43	Air Cleaner		Cyclone				
	44 Clutch	Type		Torque Converter				
	45 Transmission	Type		TORQFLOW				
	46 Hydraulic	Max. Pressure / Tank Capacity		bar(psi) / Ltr(U.S.gal)		181 (2,630) / 70 (18)		



FD70/FG70

FD70 Economy



Capacities shown are for trucks equipped with 2-stage view mast up through 5000mm (197in.) maximum fork height, 1700mm(66.9in.) carriage, 1220mm(48in.) forks. Contact your distributor or dealer for capacity information with other equipment.

