# DX20 series

7.0 to 8.0 ton Diesel and Gasoline Engine Lift Trucks



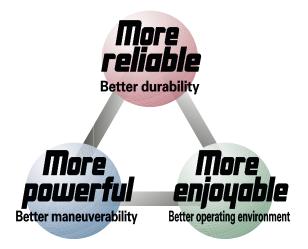
**EPA Tier 2/EU stage II Emission compliant** 

**KOMATSU FORKLIFT** 

# The perfect machine for



## the job





## **DX20 SERIES**

Our goal is to build forklifts that are ideally suited to your needs. Machines with improved durability. Heavy-duty machines that are designed to strict specifications and that have all the functions you would expect, and then some.

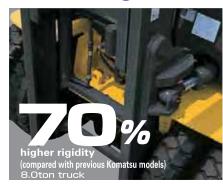
We designed the DX20 series to meet stringent requirements for rigorous professional use. This guarantees more efficient operation, even on demanding job sites.



## More reliable

**Better durability** 

### The Most Rigid Mast Frame in its Class =



### Mae

We've increased the cross-sectional area of the mast rails, used high-strength steel and strengthened the tilt cylinder connections. These improvements substantially raise the rigidity of the mast rails.

### Front axle

We used a single, thick plate for the connection between the front axle and the frame, and increased the thickness of the lateral plates, significantly boosting overall rigidity.

### Front fenders

To improve rigidity, the front fenders are made of a single, thick layer.

### A Reliable Hydraulic System—even under Extreme Conditions

### High-capacity twin-cooler system

The system adopts an air-cooled oil cooler and a water-cooled torque converter cooler. Both coolers have high coolant capacities. This means they can perform reliably, keeping hydraulic temperatures low even under severe operating conditions. The result is a reliable, long-life hydraulic system. (7.0ton type employs a water- & air-cooled torque converter.)



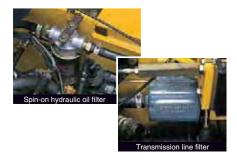
### Tandem flow divider with combined flow regeneration circuit (diesel model)

The DX20 series uses a hydraulic regeneration circuit with a tandem pump to minimize the rise in hydraulic oil temperature, even under demanding operating conditions. The cast-metal pump that is used on (8.0 ton) trucks is particularly effective at cooling.



### Maintaining oil purity

The spin-on hydraulic oil filter prevents dirt from entering the hydraulic system. This improves system reliability and makes maintenance easier. Also, a transmission line filter prevents trouble in the machine's drive train.



### Protected tilt cylinder piping

Tilt cylinder piping is located inside the dashboard, protecting it from damage in the event of a collision or a dropped load.



### Protected brake piping

For protection, brake piping is routed inside the lower frame members.

### Alternator with internal IC regulator

An IC maintains steady regulator voltage, so that a stable voltage is supplied throughout the truck. The IC also protects the circuit from damage caused by current surges.



### Standard sedimenter (diesel model)

By separating out water from the fuel, the sedimenter raises injection pump reliability. (7.0ton)



### Careful Design Extending to Chassis Details =

### Integrated bonnet

Making the bonnet an integrated unit has improved its durability. Also, the rounded contours of the upper surface shed water, keeping the bonnet free of rust.



### Standard halogen lamps

For maximum illumination, bright white long-life halogen lamps are standard on the DX20 series. Guards protect the lamp from damage.





## More powerful

**Better maneuverability** 

Power-based performance
Vou can feel the difference

**Powerful and Clean** 



The highest displacement

FD70

Because of the highest displacement in its class together with a turbo charger, these engines provide overwhelming power and superb driving performance. The engine's reentrant-type fuel chamber guarantees an ideal combustion performance that conforms the second stage regulations for emission gases in North America and Europe. This engine is friendly both to people and the environment.

## Increased power with an after-cooler

The S6D102E engine is equipped with a water-cooled after-cooler. This boosted engine torque enables a more powerful drive over an entire range of operations enabling quick and light operations o high-loaded jobs. The end result is increased work efficiency. This engine is compliant with EPA Tier 2/EU Stage II Emissions regulations and realizes both high power and clean emissions.

Rated output Piston displacement 5880<sub>cm<sup>3</sup></sub>

Gasoline engine

In addition to power and excellent fuel efficiency, the crankshaft has an eight-counterweight balance to minimize engine noise and heat balance and reduce noise. The engine is also fitted with a vacuum pump to produce vacuum pressure for the brakes.

70kw@2400rpm

### **Superior Loading and Unloading** for Higher Operating Efficiency

### High-speed fork lifting and lowering

High torque guarantees that the engine is ideally suited for forklift operation. The use of a combined flow regeneration circuit with tandem flow divider and a cast tandem pump maximizes lifting speed.

Lifting speed (unloaded)

7.0/8.0 ton diesel models

Lowering speed (unloaded)

7.0 ton diesel model

### Improved Travel and Braking Performance 💳

### Top travel speed and gradeability

These characteristics maximize efficiency on a variety of sites.

Maximum travel speed (unloaded)

32.0<sub>km/h</sub>

29.8%

Maximum gradeability (loaded)

7.0 ton diesel model

### **Smooth initial acceleration**

The transmission is equipped with a modulator valve, as well as an electrical two-speed valve and a conical plate to ensure smooth, yet

Acceleration from 0~20m (unloaded)

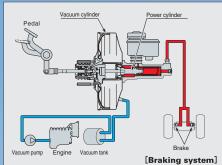
**6.2**sec.

### Optional setting for automatically shifting two-speed torque converter (optional)

An optional setting allows the automatic transmission to perform the shift from first to second gear automatically. This allows the operator to concentrate on efficiently performing the work at hand, instead of on changing gears.

### HydroMaster brakes for reliable braking power (7.0ton)

The braking system uses a vacuum-based HydroMaster system as a brake assist unit. Vacuum pressure assists power cylinder operation, and the wheel cylinders operate due to power cylinder pressure, resulting in excellent braking performance. Even if the engine stalls, fluid flows from the vacuum tank to t the assist mechanism to guarantee reliable braking power. The eight-ton type employs a full hydraulic power brake.



### **Swift footwork**

DX20 series machines have small turning radii and nimble steering, so changes in direction are almost instantaneous. This contributes to rapid cycle times.

Minimum turning radius Outside radius for 7.0 ton model

# More enjoyable

**Better operating environment** 

Large, easy-to-reach assist grips

Rounded pedal area

Wide, slipresistant step

Flat floor that is easy on the feet

**Excellent Front and Rear Visibility** 



Eliminating the intermediate inner mast stay improves visibility when loading the truck. The masts are colored an unobtrusive gray, while the forks are painted an easy-to-see yellow.

### Outstanding fork tip visibility

Using a compact meter panel, selecting an appropriate mounting location and using a two-spoke steering wheel improve the operator's visibility of the fork tips.



### Easy Maintenance =

### Handle for opening the bonnet

You can open the bonnet without having to tilt back the steering wheel, as the steering wheel automatically retracts.

### Angled bonnet sides

The sides of the bonnet are angled to make inspections easier. The bonnet is a single unit, beginning at the point where it hinges away from the floor plate. This avoids the need to remove the floor plate before servicing.

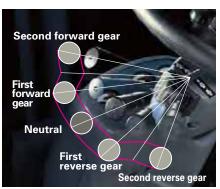
### Reliable, Light-Touch Operating System -

### Electrically controlled forward-reverse lever operates at the touch of a finger

The shifting force has been reduced by 60%, so the operator can shift from first to second gear without removing his hands from the steering wheel. This minimizes fatigue even after hours on the job.



Reduction in force required to shift gears (compared with previous Komatsu models)



### Combination switch for head lamp and directional indicator (Auto-return)

As in an automobile, switches for the lights and turn signals are all on the same lever. The turn signals cancel automatically, so the operator need not remember to manually cancel the signal.

### Integrated meter panel for single-view checking



- Brake oil level warning lamp ngine oil pressure warning lamp
- Charge warning lamp gauge Torque converter oil

Hourmeter

temperature gauge Needle-type fuel

- Operation lamp
- Air cleaner element warning lamp
- Coolant level warning lamp Sedimenter warning lamp
- (diesel model) Parking brake lamp

# Excellent operator-machine interface— Maximizing operator comfort



The lift truck in this photograph is equipped with

### Low Noise and Vibration for a Comfortable Operating Environment

### Hydraulic Suspension Cab (HSC) for a soft ride

The HSC system isolates the entire cabin space from the chassis, greatly reducing operating vibrations. This system is particularly effective when used with Komatsu's unique, non-puncture tires, which offer little vibration damping.



### **Extremely quiet**

The combination of an integrated bonnet, a low-noise engine and various other noise-suppressing equipment succeeds in greatly reducing the noise that reaches the operator's ears.









Thoughtful design



### Adjustable deluxe operator seat

With adjustment functions for reclining, front-rear slide and suspension,

this seamless blow-formed seat offers excellent comfort, as well as durability. Other features include a retracting seat beltand a rear



### Designed to simplify maintenance

The floor plate and radiator cover can be removed at a single touch. (7.0ton)





### Ensuring a High Level of Safety **=**

### Bonnet lock and stopper

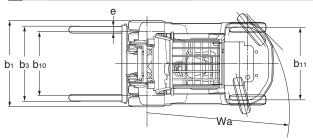
The bonnet lock prevents the bonnet from lifting up when the truck runs over bumps in the floor. The bonnet stopper keeps strong winds from closing the bonnet accidentally.

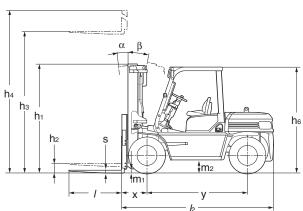




### **Specifications**

o 1.2	Model	Manu	facturer's Desig	nation				 			
,	Power Type										
	Operator Type		Electric, Diesel, Gasoline, LPG, Cable Pedestrian, Driver Standing, Sitting, Order Picking								
1.5	Rated Capacity		Q Capacity at 600mm (24") Load Center kg (lb)								
1.8	Load Distance				mm (						
1.5 1.8 1.9	Wheelbase	x From Center of Front Axle			mm (						
2.1	Service Weight	У		kg (							
2.1	Service Weight			Front	kg (						
2.2.1		Loade	ed	Rear							
	Axle Loading			Front	kg (						
2.3		Unloa	ded		kg (						
3.1	Tire Type	Calid	Rear k Solid, Pneumatic			(lb)					
	Tire Type	Front	Pneumatic								
3.2	Tire Size	Rear									
3.3	Number of Wheel		Dearly drivers								
3.5			Rear(x=driven)			(in)					
3.6	Tread, Front	b10			mm (						
3.7	Tread, Rear	b <sub>11</sub>	Commond/Do-!	uoval	mm (						
	Tilting Angle		Forward/Backw	varo	degr						
	Mast Height, Lowered		With Std. Mast	f	mm ( mm (						
	Std. Free Lift		h <sub>2</sub> With Std. Mast from Ground h <sub>3</sub> With Std. Mast from Ground								
	Std. Lift Height				mm (						
	Mast Height, Extended		With Std. Mast	mm (							
4.7	Height, Overhead Guard	h <sub>6</sub>			mm (						
	Length, to Face Forks	h			mm (						
	Width, at Tire	b <sub>1</sub>	T1 ' 1 141'		mm (						
	Forks		Thickness x Wi	atn x Length	mm (						
4.24	Width, Fork Carriage		Max./Min.		mm (						
4.31	Ground Clearance		Under the Mast		mm (						
4.32			at the Center of	t wheelbase	mm (						
4.33	Right Angle Stacking Aisle	Ast			mm (	` '					
4.35	Turning Radius	Wa	1 1 1/0 1		mm ( km/h (mp						
5.1	Travel Speed (FWD)										
5.1.1	·		ded, 1st/2nd		km/h (mp						
	Lifting Speed		ed/Unloaded		mm/s (fp						
5.3	Lowering Speed		ed/Unloaded		mm/s (fp						
5.6	Max. Drawbar Pull		/h, 3min rating		kN (						
5.8	Max. Grade ability	1.5km	/h, 3min rating	Loaded		%					
5.10	Service Brake										
5.11	Parking Brake										
	Steering										
6.4	Battery	Voltag	ge/Capacity 5-F	Hour Rating	V/.	/Ah					
	Make/Model										
7.2	Rated Output/Speed, SAE gross		kW (HP) @rpm								
	Max. Torque/Speed, SAE gross		N.m (lb.ft) @rpm								
	Number of Cylinders/Displacement				cm³ (cu.						
	Fuel Tank Capacity				Ltr (U.S.g						
8.2	Relief Pressuure for Attachment				bar (p	-					
~	Hydraulic Tank Capacity				Ltr (U.S.g	jal)					
0.0	Clutch										
8.7	Transmission										





- STANDARD EQUIPMENT

  Headlights
  Turn signals
  Stop and tail lights
  Back up light
  Engine key stop (Diesel)
  Horn
  Torque converter oil cooler
  Power brake
  Cyclonic air cleaner
  Tiltable steering column
  Drawbar pin
- Drawbar pin

### Safety indicators

- Safety indicators

  Engine oil pressure warning lamp
  Charge warning lamp
  Air cleaner element warning lamp
  Parking brake lamp
  Coolant level warning lamp
  Brake oil level warning lamp
  Sedimenter warning lamp(Diesel)
  Operation lamp
  Preheating indicator (Diesel)

- Water temperature gauge
   Fuel gauge
   Torque converter oil temperature gauge
   Hourmeter

### ATTACHMENTS

- ATTACHMENTS

  Side shifter

  Bale clamp

  Manipulator

  Hinged forks

  Fork positioner

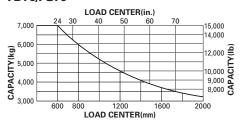
  Side shifting type fork positioner

  Ram

There are more options and attachments. Please contact with your Komatsu dealer for the availability.

FD70-8	FG70-8	FD80-8	1.2
Diesel	Gasoline	Diesel	1.2 1.3 1.4 1.5 1.8 1.9
Sitt	ting	Sitting	1.4
7000 (	15,400)	8000 (18,000)	1.5
585 (	23.0)	675 (26.6)	1.8
2300	(90.5)	2500 (98.4)	1.9
9245 (20,380)	9050 (19,950)	10995 (24,240)	2.1
14330 (31,590)	14285 (31,490)	17020 (37,520)	2.2
1915 (4,220)	1765 (3,890)	1975 (4,350)	2.1 2.2 2.2.1 2.3
3725 (8,210)	3680 (8,110)	4845 (10,680)	2.3
5220 (11,510)	5370 (11,840)	6150 (13,560)	2.3.1
	matic	Pneumatic	3.1
8.25-15-		9.00-20-12PR(I)	3.2
8.25-15-	C)	9.00-20-12PR(I)	3.3
	d2	4x/2	3.3 3.5
1450		1540 (60.6)	3.6
1640		1700 (66.9)	3.7
	12	6/12	4.1
2585 (		2710 (106.7)	4.2
	(8.7)	220 (8.7)	4.3
3000		3000 (118)	
4350 (		4350 (171.2)	4.5
2440		2610 (102.7)	4.7
3565 (	,	3875 (152.5)	4.20
1960		2120 (83.5)	4.21
65 x 150 x 1220		65 x 170 x 1220 (2.5 x 6.7 x 48.0)	4.4 4.5 4.7 4.20 4.21 4.22 4.24
	(67.7/11.8)	1829/340 (72/13.4)	4.24
	(8.8)	250 (9.8)	4.31
	(11.2)	335 (13.2)	4.32
3935 (	,	4275 (168.3)	4.33
3350 (		3600 (141.7)	4.35
11.0 (6.8)/30.0 (18.6)	11.0 (6.8)/28.0 (17.4)	12.0 (7.5)/31.0 (19.3)	5.1
12.0 (7.5)/		12.5 (7.8)/33.0 (20.5)	5.1.1
450/500 (89/98)	365/390 (72/77)	455/500 (90/98)	5.2
550/500 (108/98)	550/550 (108/108)	500/450 (98/89)	5.3
46.1 (10,350)	42.1 (9,470)	57.6 (12,950)	5.6
29.8	24.2	32.7	5.8
29.6 Hydraulic,		Hydraulic, Powered	5.10
Mech		Mechanical	5.10
	Steering	Power Steering	5.12
24/52	12/48	24/52	6.4
KOMATSU S6D102E	NISSAN TB45E	KOMATSU SA6D102E	7.1
77 (103) @2250	70 (95) @2400	96 (129) @ 2250	7.2 7.3
392 (289) @ 1000	276 (203) @1600	466 (344) @ 1600	7.3
6/5880 (359)	6/4478 (273)	6/5880 (359)	7.4
	(37)	140 (37)	7.6
181 (2		181 (2,630)	8.2
	(18)	70 (18)	8.2 8.2.1 8.6
	Converter	Torque Converter	
TORQ	FLOW	TORQFLOW	8.7

### FD70/FG70



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.

Maximum fork height	Overall hei	ght mm (in)	Load* capacity	Free lift mm (in)	Back tilt restriction				
mm(in) Lowered J		Extended K	kg (lb)	В	β				
2-stage view mast**									
3000 (118)	2585(101.8)	4350(171.3)							
3500 (138)	2835(111.6)	4850(190.9)							
4000 (157)	3085(121.4)	5350(210.6)	7000 (15,400)						
4500 (177)	3435(135.2)	5850(230.3)	2	220(8.7)	12°				
5000 (197)	3785(149.0)	6350(250.0)	]						
5500 (217)	4135(162.8)	6850(269.7)	6700(14,770)						
6000 (236)	4385(172.6)	7350(289.4)	6500(14,330)						
2-stage full	free view m	ast***							
3000 (118)	2585(101.8)	4210(165.7)		1455(57.3)					
3300 (130)	2735(107.7)	4510(177.6)	6600(14,550)	1605(63.2)	10°				
3500 (138)	2835(111.6)	4710(185.4)	0000(14,000)	1705(67.1)	10				
4000 (157)	3085(121.5)	5210(205.1)		1955(77.0)					
3-stage full free view mast***									
4000 (157)	2400 (94.5)	5105(201.0)		1405(55.3)					
4300 (169)	2500 (98.4)	5405(212.8)	6400(14,110)	1505(59.3)					
4500 (177)	2550(100.4)	5600(220.5)		1560(61.4)	6°				
5000 (197)	2750(108.3)	6100(240.2)	6300(13,890)	1760(69.3)	"				
5500 (217)	2950(116.1)	6600(259.8)	6100(13,450)	1960(77.2)					
6000 (236)	3150(124.0)	7100(279.5)	5500(12,130)	2160(85.0)					

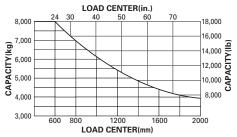
Standard mast is shown in broad frame.

Load capacity at 600mm (24in.) load center.

1280mm (30.4 in.) height load backrest.

Free lift and Overall height (Extended) shown are for truck without load backrest.

### **FD80**



Capacities shown are for trucks equipped with 2-stage view mast up through 5000mm (197in.) maximum fork height, 1800mm(70.9in.) carriage, 1220mm(48in.) forks. Contact your distributor or dealer for capacity information with other equipment.

Maximum fork height	Overall hei	ght mm (in)	Load* capacity	Free lift mm (in)	Back tilt restriction					
mm(in)	Lowered J	Extended K	kg (lb)	В	β					
2-stage view mast**										
3000 (118)	2710(106.7)	4350(171.3)								
3500 (138)	2960(116.5)	4850(190.9)								
4000 (157)	3210(126.4)	5350(210.6)	8000 (17,640)							
4500 (177)	3560(140.2)	5850(230.3)		220(8.7)	12°					
5000 (197)	3910(153.9)	6350(250.0)								
5500 (217)	4260(167.7)	6850(269.7)	7700(16,980)							
6000 (236)	4510(177.6)	7350(289.4)	7500(16,530)							
2-stage full	free view ma	ast***								
3000 (118)	2705(106.5)	4180(164.6)		1605(63.1)						
3300 (130)	2855(112.4)	4480(176.4)	7000/17 400\	1755(69.1)	10°					
3500 (138)	2955(116.3)	4680(184.3)	7900(17,420)	1855(73.0)	10					
4000 (157)	3205(126.2)	5180(203.9)		2105(82.9)						
3-stage full	3-stage full free view mast***									
4000 (157)	2605 (102.6)	5315(209.3)		1400(55.1)						
4300 (169)	2705 (106.5) 5615(221.1) 2755(108.5) 5815(228.9) 2955(116.3) 6315(248.6)		7200(15,870)	1500(59.1)						
4500 (177)				1550(61.0)	6°					
5000 (197)			7000(15,400)	1750(68.9)	"					
5500 (217)	3155(124.2)	6815(268.3)	6500(14,330)	1950(76.8)						
6000 (236)	3355(132.1)	7315(288.0)	5900(13,010)	2150(84.6)						
Standard mas	st is shown in	broad frame.								

- Standard mast is shown in broad frame.

  Load capacity at 800mm (24in,) load center.

  1280mm (50.4 in,) height load backrest.

  Free lift and Overall height (Extended) shown are for truck without load backrest.

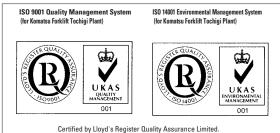
Performance may vary due to operations.

The performance shown represents nominal values under typical operating conditions.

Most values shown in this publication are rounded.

Therefore, direct conversion between metric and imperial may be slightly different from those shown. Specifications are subject to improvements and changes without notice. If these specifications are critical, please discuss the proposed application with your distributor or dealer.

The illustrations do not necessarily show the standard version and features of the equipment. Features and specifications may vary by country and region. Products and specifications are subject to change without prior notice. Please contact your Komatsu dealer for detail information.



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