

# DX50



**KOMATSU**<sup>®</sup>



*The Forklift With Proven Ability.™*

## **PNEUMATIC TIRE FORKLIFT**

13,200 – 18,000 LBS. CAPACITY | DIESEL

EPA TIER 3 / EU STAGE IIIA EMISSION COMPLIANT

# "Reducing Total Operating Costs" with Komatsu Innovative Technologies

The fusion of advanced engine technologies and Komatsu's unique hydraulic system enables the new DX50 Series to achieve a significant reduction in total operation costs and facilitates superior working performance. Our innovative machines challenge the conventional concept of the forklift.

## Komatsu's Hydraulic System and the NEW Diesel Engine Reduce Fuel Consumption



In order to minimize engine loading, the new DX50 has adopted Komatsu's unique open-center load moderating (OLMS) hydraulic system, and the compact 3.3-liter diesel engine to achieve superior performance and up to a 20% reduction in fuel consumption.

**Fuel Consumption**  
**Max. 20% savings**



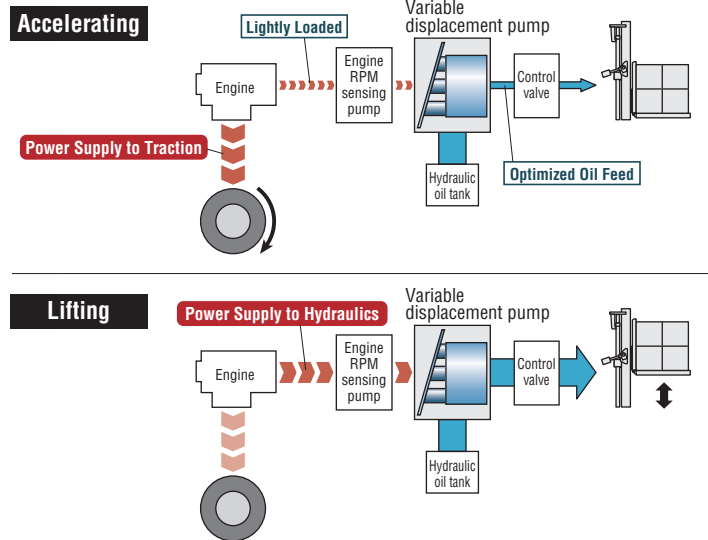
Komatsu tested data, comparison with FD70-8. The results may vary depending on conditions.

### Komatsu's Unique OLMS Hydraulic System Contributes To Lower Fuel Consumption

As engine speeds change, the engine RPM sensing control pump detects engine revs and then controls the oil feed to reduce the load on the engine. This unique hydraulic system offers optimized balancing of traveling and loading work, while delivering increased hydraulic efficiencies in the most demanding applications.

Optimally controlled hydraulic oil results in;

- Optimized balancing of traveling and loading work
- Lower fuel consumption with OLMS and the new compact 3.3 liter diesel engine.



## Greatly Reduced Total Operating Costs

The standard sealed wet disc brake system is designed to withstand 10,000\* hours of operation without maintenance, thereby eliminating downtime and the added maintenance costs of frequent brake shoe replacement. The engine oil replacement interval has been extended to 500 hours, which reduces oil costs. The reduced maintenance costs and significant fuel savings provides a total operating cost reduction of about 14% over eight years of usage.

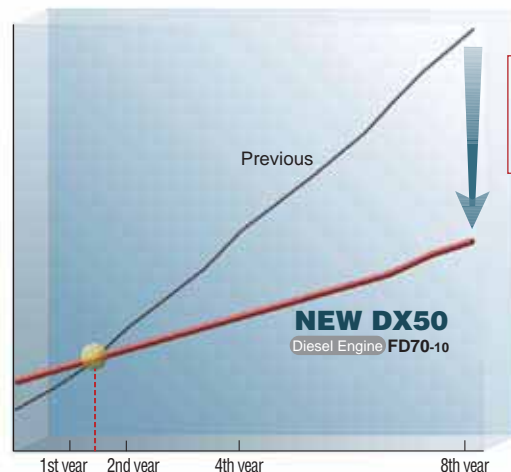
\*A periodic check and oil replacement are necessary.

### Running cost (Accumulated costs for 8 years)

Assuming FD70-8 as 100%;



### Total operating cost (\*Image)



**Total operating cost**  
**Approx. 14% savings**  
(8 years)

Komatsu tested data, comparison with FD70-8 model. Operation hours: 5 h/day, 25 days/month (Total: Approx. 1500 h/year). Maintenance intervals to manufacturer's recommendation. The results may vary depending on conditions.

# Advanced Technology Offers Reduced CO<sub>2</sub> Emissions



The new DX50 Series feature the SAA4D95LE-5-A compact 3.3 liter engine in combination with Komatsu's efficient OLMS hydraulic system to enable the reduction of CO<sub>2</sub> emissions by approximately 7.8 tons annually.

Annual CO<sub>2</sub> emissions  
About **7.8** tons reduction



Komatsu tested data, comparison with FD70-8 model.  
The results may vary depending on conditions.

## A technologically advanced Diesel Engine that Conforms to the Latest EPA Emission Regulations

Low fuel consumption and low environmental impact are enabled by elimination of excess combustion and the use of the combined technologies of the high pressure common rail system, electronic control system, new combustion system and air to air charge air cooling system.

EPA Tier 3 / EU Stage IIIA Emission Compliant

**ecot3**  
ecology & economy - technology 3



### SAA4D95LE-5-A

Displacement:

**3.3 liter**

Rated Output:

**92.5 HP @ 2,250 rpm**

Maximum Torque:

**253 lb.-ft. @ 1,600 rpm**



# Superior "Productivity" and "Reliability" Satisfy Demanding Operational Needs

## Durable Wet Disc Brakes to Withstand Severe Conditions

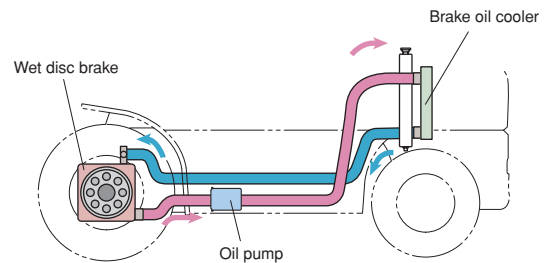


The wet disc brake system is sealed with oil to block dust penetration, providing durable, water resistant and fade resistant characteristics. Smooth, stable braking provides "Productivity" and "Reliability" in demanding operations.



### A Cooling System to Achieve Increased Braking Stability

The oil in the wet disc brake system is circulated through the brake oil cooler. This mechanism ensures stable braking under a heavy work load and prevents deterioration of the braking force that could be caused by raised oil temperatures.



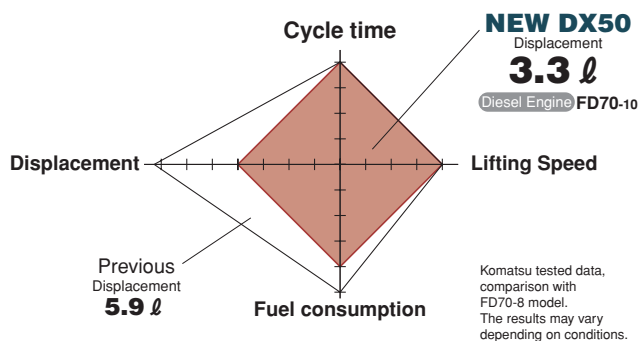
- Steady braking is always achieved.
- Overheating of the brakes is prevented.
- Downtime and maintenance costs are reduced.

## First-class Productivity is Achieved

### First-class Cycle Time

The new DX50 Series utilizes a technologically advanced, compact 3.3-liter engine in conjunction with Komatsu's advanced OLMS hydraulic system. This advanced design achieves high productivity and first class cycle times.

● The NEW DX50 Series achieves high productivity equivalent to the previous DX20 Series.



● **Lifting Speed** (Loaded)  
Diesel Engine FD70-10  
**88.5 fpm**

● **Traveling Speed** (Unloaded)  
Diesel Engine FD70-10  
**19.3 mph**

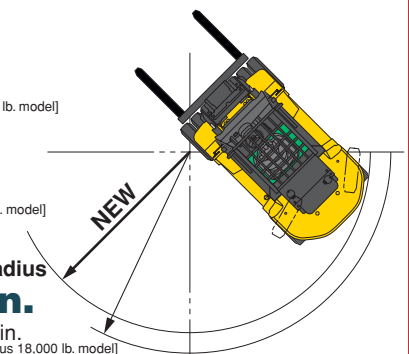
### Fully Hydrostatic Power Steering for Superb Maneuverability

The FHPS (Fully Hydrostatic Power Steering) system facilitates fully stationary steering as well as switchback operations using the small diameter steering wheel. The system has a superior response capability so that the operator can maneuver easily with a load even in a tight area.

### The 18,000 lb model offers a significant size reduction

The 18,000 lb. model features a shorter wheelbase and swift mobility while maintaining the power and speed capable of achieving high productivity. The DX50 18,000 lb. model is an ideal choice for confined spaces.

- **Length**  
**193 in.**  
201 in. [Previous 18,000 lb. model]
- **Width**  
**81 in.**  
83 in. [Previous 18,000 lb. model]
- **Turning radius**  
**136 in.**  
142 in. [Previous 18,000 lb. model]



## Excellent Durability To Handle Demanding Work Cycles

### Rugged Design with High Rigidity

The high rigidity mast, frame, front and rear axles ensure outstanding reliability even when performing heavy-duty work.

#### [Mast]

A heavy mast rail profile for excellent rigidity.

#### [Frame]

The successful high rigidity structure of previous models is adopted.

#### [Front axle]

New field proven design adopted from Komatsu Wheel Leader Construction Equipment.

#### [Rear axle]

The durability of the power steering cylinder is improved.

### Improved Reliabilities for the Hydraulic and Electrical Systems

The main hydraulic pipe connectors are face-sealed using O-rings. Waterproof connectors are provided to the main harnesses and the system controller in order to provide higher resistance to water and dust. Hydraulic and electrical piping systems are in separate configurations to improve the reliability and servicing.

### Engine Protection Systems To Keep the Engine in the Best Operating Condition

The electronic engine controls upgrade the performance of the engine protection (fail-safe functions).

- **Trouble diagnosis:**

Engine malfunctions are automatically detected and an alarm lamp blinks.

- **Overheating prevention:**

The engine output and RPMs are reduced when the coolant temperature exceeds limits.

- **Automatic engine warm-up:**

The RPMs are accelerated to warm up the engine at low temperatures.

- **Automatic air pre-heating:**

The engine is automatically pre-heated when starting at low temperatures.



Engine failure indicator



## Careful Designs Make Serviceability Easier

### Filter Layout Optimized for Improved Serviceability

A fully-opening floor plate.



Fuel pre-filter

Main fuel filter

Relay and fuse boxes are conveniently located.

### Easy Radiator Cleaning



### Wide Opening Engine Hood with a Lock for Easy Servicing



Locking engine hood provides protection while servicing

# Advanced Design in Pursuit of "Safety and Comfort"

## Effective Risk Reduction Systems

### KOPS Plus - "Komatsu Operator Presence System"

The DX50 features KOPS Plus to protect people and equipment if the operator leaves the seat. If the seat is vacant for more than three seconds, KOPS Plus automatically locks out all lift, lower, tilt and travel functions. The operator must return to the seat to unlock the system. A flashing yellow warning light alerts the operator when KOPS Plus is activated. In addition, the DX50 forks cannot be lowered with the key in the off position.

\*The traveling interlocking function only disengages traction and does not automatically apply the brakes.  
\*KOPS Plus - "Komatsu Operator Presence System" ISO3691-1 compliant



KOPS Plus Hydraulic Lock Indicator



KOPS Plus is activated when the operator leaves the seat for more than three seconds.

### A Neutral Safety Function To Prevent an Inadvertent Start

The engine cannot be started unless the F-R switch is in the neutral position.



Neutral indicator for at-a-glance information

### Parking Brake Alarm

If the operator fails to engage the parking brake, an alarm will sound.



A double acting type brake lever prevents mishandling

### ISO-Compliant Enhanced Overhead Guard for Operator's Protection



## Greater Operator Comfort and Reduced Fatigue In Even The Toughest Applications

### Full Suspension Seat and Floating Cab Structure Absorb Vibrations

The deluxe full suspension seat features improved vibration resistance and reduced stress on the body. The floating cab structure enables the entire cab to be isolated from the frame and the rubber cushioning of the engine mounts reduces the vibrations transmitted from the engine and road surface. The overall design concept is operator and load friendly.

- Six-step reclining backrest
- 6.7" slide distance backward and forward
- Seat cushion adjustment dial
- Retractable seat belt



### Comfortable Braking with the Organ-type Pedal

The organ-type pedal allows an operator to control braking comfortably without lifting the heel from the floor.



### Low Noise Design

The low-noise design of the compact engine reduces unpleasant noise levels during operation.

# DX50 Series Specifications

GENERAL				FD60T-10	FD70T-10	FD80T-10	
Power Type	1		Diesel	Diesel	Diesel		
Operation Type	2		Sit-Down	Sit-Down	Sit-Down		
Capacity @ 24 in. (600 mm) load center *	lbs. (kg)	3	13,200 (6,000)	15,400 (7,000)	18,000 (8,000)		
Load Distance - Front Axle Center to Fork Face	in. (mm)	4	22.8 (580)	23 (585)	25 (635)		
Wheelbase	in. (mm)	5	90.6 (2,300)	90.6 (2,300)	90.6 (2,300)		
WEIGHT							
Service weight (includes 2-stage std. mast & forks)	lbs. (kg)	6	18,860 (8,555)	20,380 (9,245)	24,050 (10,910)		
Axle Loading	Loaded	Front	lbs. (kg)	7	28,550 (12,950)	31,590 (14,330)	36,520 (16,565)
		Rear	lbs. (kg)	8	3,540 (1,605)	4,220 (1,915)	5,170 (2,345)
	Unloaded	Front	lbs. (kg)	9	8,580 (3,890)	8,210 (3,725)	9,410 (4,270)
		Rear	lbs. (kg)	10	10,280 (4,665)	12,170 (5,520)	14,640 (6,640)
TIRE							
Tire type	11		Pneumatic	Pneumatic	Pneumatic		
Tire size, front	12		8.25 - 15 - 12PR (I)	8.25 - 15 - 14PR (I)	8.25 - 15 - 18PR (I)		
Tire size, rear	13		8.25 - 15 - 12PR (I)	8.25 - 15 - 14PR (I)	8.25 - 15 - 18PR (I)		
Number of wheel, front / rear	x= driven	14	4x / 2	4x / 2	4x / 2		
Tread (center of tires)	Front	in. (mm)	15	57.9 (1,470)	57.9 (1,470)	60.6 (1,540)	
	Rear	in. (mm)	16	64.6 (1,640)	64.6 (1,640)	64.6 (1,640)	
DIMENSIONS							
Tilting angle, 2-stage (FV) masts, forward / backward	deg.	17	6 / 12	6 / 12	6 / 12		
Mast height, lowered (2-stage std. mast)	in. (mm)	18	98.4 (2,500)	101.8 (2,585)	106.7 (2,710)		
Free lift height (2-stage std. mast)	in. (mm)	19	8.5 (215)	8.7 (220)	8.7 (220)		
Mast height, extended (2-stage std. mast) †	in. (mm)	20	171.3 (4,350)	171.3 (4,350)	171.3 (4,350)		
Maximum fork height (2-stage std. mast) **	in. (mm)	21	118 (3,000)	118 (3,000)	118 (3,000)		
Height overhead guard	in. (mm)	22	96.1 (2,440)	96.1 (2,440)	96.1 (2,440)		
Length, with Std. Forks	in. (mm)	23	185 (4,700)	188.4 (4,785)	192.5 (4,890)		
Length to fork face (2-stage mast)	in. (mm)	24	137 (3,480)	140.4 (3,565)	144.5 (3,670)		
Overall width, at drive tires (single)	in. (mm)	25	78 (1,980)	78 (1,980)	80.7 (2,050)		
Forks, thickness x width x length	in.	26	2.6 x 5.9 x 48	2.6 x 5.9 x 48	2.6 x 6.7 x 48		
Forks, thickness x width x length	mm	27	65 x 150 x 1,220	65 x 150 x 1,220	65 x 170 x 1,220		
Carriage width / ITA Class	in. (mm)	28	66.5 (1,690) / IV	66.5 (1,690) / IV	70.9 (1,800) / IV		
Ground clearance, under mast	in. (mm)	29	8.7 (220)	8.7 (220)	9.3 (235)		
Ground clearance, center of wheelbase	in. (mm)	30	11.6 (295)	11.6 (295)	11.6 (295)		
Right angle stacking aisle ††	in. (mm)	31	150.8 (3,830)	154.9 (3,935)	160.8 (4,085)		
Turning radius, outside	in. (mm)	32	128 (3,250)	131.9 (3,350)	135.8 (3,450)		
PERFORMANCE							
Travel speed, forward, loaded - 1st / 2nd	mph (km/h)	33	6.8 / 18 (11 / 29)	6.8 / 18 (11 / 29)	6.8 / 16.2 (11 / 26)		
Travel speed, forward, unloaded - 1st / 2nd	mph (km/h)	34	7.5 / 19.3 (12 / 31)	7.5 / 19.3 (12 / 31)	7.5 / 19.3 (12 / 31)		
Lifting speed, loaded / unloaded (2-stage mast)	fpm (mm/s)	35	98 (500) / 110 (560)	89 (450) / 98 (500)	79 (400) / 89 (450)		
Lowering speed, loaded / unloaded (2-stage mast)	fpm (mm/s)	36	108 (550) / 114 (580)	94 (480) / 98 (500)	91 (460) / 98 (500)		
Maximum drawbar pull, loaded	lbs. (kN)	37	9,890 (44)	9,890 (44)	9,890 (44)		
Maximum gradability	%	38	29.0	29.0	24.0		
Service brake, operation/control	39		Foot / Hydraulic	Foot / Hydraulic	Foot / Hydraulic		
Parking brake, operation/control	40		Hand / Mechanical	Hand / Mechanical	Hand / Mechanical		
Steering, type	41		FHPS	FHPS	FHPS		
Battery / Voltage / Capacity at 5-hour rating	V / Ah	42	24 / 52	24 / 52	24 / 52		
DRIVE							
Engine Manufacturer / Engine model	43		Komatsu SAA4D95LE-5-A	Komatsu SAA4D95LE-5-A	Komatsu SAA4D95LE-5-A		
Rated output (SAE Net)	HP (kW) @ rpm	44	93 (69) @ 2,250	93 (69) @ 2,250	93 (69) @ 2,250		
Maximum torque (SAE Net)	lb-ft (Nm) @ rpm	45	253 (343) @ 1,600	253 (343) @ 1,600	253 (343) @ 1,600		
No. of cylinder / displacement	cu. in. (cm3)	46	4 / 199 (3,260)	4 / 199 (3,260)	4 / 199 (3,260)		
Fuel tank capacity	U.S. gallons (liters)	47	37 (140)	37 (140)	37 (140)		
OTHER							
Relief pressure, maximum	psi (bar)	48	2,600 (181)	2,600 (181)	2,600 (181)		
Transmission	49		TORQFLOW	TORQFLOW	TORQFLOW		

NOTE: Most values shown in this publication are rounded. Therefore, direct conversion between metric and English or Imperial may be slightly different from those shown. The performance of machines is affected by the condition of the truck and how it is equipped, as well as the nature and condition of the operating area. If these specifications are critical or if your needs exceed the specifications shown here, discuss the proposed application with your authorized dealer.

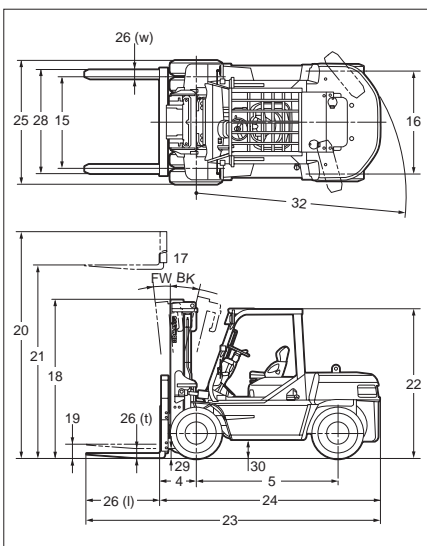
\*Optional masts, attachments, longer load dimensions, and higher lifting heights may result in downrating of the capacity. Contact your authorized dealer.

\*\*Other mast heights available. See MAST DATA chart for other standard mast heights. Contact your authorized dealer.

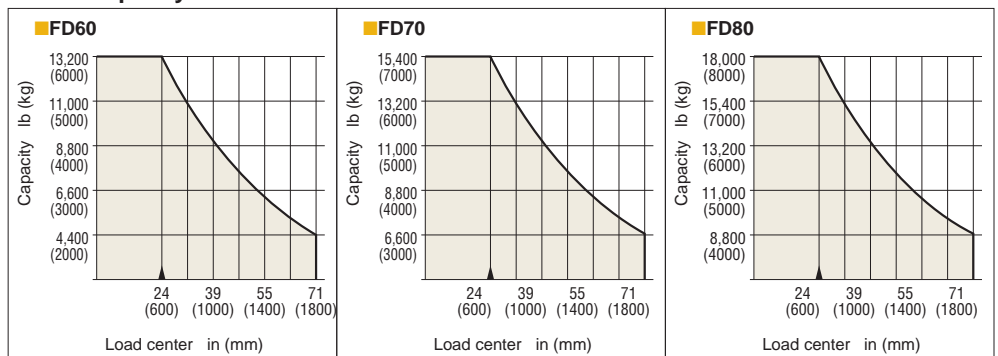
†Includes 48-inch (1,220 mm) high load backrest. Contact your authorized dealer.

††Add load length plus clearance

## Dimensions



## Load capacity curve



## Major equipment

●: Standard ○: Option

		DX50 Series	
		Engine	Diesel
Wet disc brake		●	●
Engine-related	EPA Tier 3/EU Stage IIIA compliant Diesel engine	●	●
	Electronic engine control system	●	●
	Heavy duty High Pressure Common Rail system	●	●
	New combustion system	●	●
	Air to air charge air cooling system	●	●
	Overheat prevention function	●	●
	Auto engine warm-up function	●	●
	Auto air pre-heat function	●	●
Traveling-related	Large capacity radiator	●	●
	Dual floating structure	●	●
	New Full Suspension Seat	●	●
	Tiltable steering column	●	●
	Electric forward/reverse lever	●	●
	Combination switch (turn signal light & light switch)	●	●
Meters	Indicator auto-return mechanism	●	●
	Wide slip-resistant step	●	●
	Paper binder at engine hood	●	●
	Meter panel	●	●
	Hourmeter (6-digit)	●	●
Safety indicators	Engine cooling water temperature gauge	●	●
	Torque converter oil temperature gauge	●	●
	Fuel gauge	●	●
	Lifting interlock lamp	●	●
	Charge warning lamp	●	●
	Neutral indicator	●	●
	Failure indicator	●	●
Electric components	Engine failure indicator	●	●
	Air cleaner element warning lamp	●	●
	Cooling water level warning lamp	●	●
	Glow indicator	●	●
	Large capacity alternator	●	●
	Quick auto glow system	●	●
Mechanism	Neutral safety function	●	●
	Auto fuse	●	●
	Low maintenance battery	●	●
	Engine key stop function	●	●
	Halogen headlight	●	●
	Rear combination light	●	●
	Back-up alarm	○	○
	KOPS Plus - "Komatsu Operator Presence System"	●	●
	Sedimenter with priming pump	●	●
	Cyclone air cleaner (double element)	●	●
Exterior	Parking brake with release button	●	●
	Fully hydrostatic power steering	●	●
	Non-asbestos parking brake linings	●	●
	Key-off lift lock	●	●
	Floor mat	●	●
	Assist grip	●	●
Exterior	Overhead guard with front/rear conduits	●	●
	Rearview mirrors (pair)	○	○
	Full shield solid-state engine hood	●	●
	Easy-removable floor panel	●	●
	Easy-removable radiator cover	●	●
Exterior	Engine hood lock	●	●
	Radiator reservoir tank	●	●
	Jacking points	●	●

## Options

### Engine & power train related

- Air intake pre-cleaner
- Automatic transmission

### Exterior

- Steel cab
- Steel cab with heater
- Steel cab with AC
- Canvas cab with front windshield and wiper
- Tilt cylinder boots
- Power steering cylinder boots
- Lifting hook
- Locking fuel cap

### Electrical equipment

- Headlights, 2-stage (High-Low)
- Rear working light
- Yellow strobe light

### Meters & gauges

- Speedometer
- Speedometer with alarm
- Mast tilt angle gauge

### Tire

- Solid Pneumatic Tires (13,200 lb. & 15,400 lb.)

## Mast

### ● 2-stage free view mast

The mast enables a wide view with excellent forward visibility.

### ● 2-stage full free view mast

This is ideal for sites with height limitations, where maximum free lift is required.

### ● 3-stage full free view mast

The mast extends in three stages and high level loading is easily performed.

## Attachments

### ● Side shifter

The forks may be shifted sideways together with its backrest, both to the right and to the left.

### ● Fork positioner

The operator is able to adjust the fork spread width from the operator's seat.

### ● Fork positioner with side shifter

The combination of fork positioner and side shifter.

### ● Fork positioner with side shift function

This attachment is a fork positioner which has a simultaneous fork movement function to act as a side shifter.



## THE KOMATSU HERITAGE

As part of the Komatsu family, we have a proud heritage of excellence and superiority in equipment design and manufacturing. Since 1921 Komatsu has been a global leader in the construction and mining equipment industry. And since 1945, we have built upon that heritage by producing innovative, high-quality, durable forklifts to meet and exceed the needs of our customers. Today our ISO 9001-certified plant in Covington, Georgia builds forklifts for North and South America, Canada, Mexico, and Latin America.

# KOMATSU®

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