Baoli

OPERATION & SERVICE MANUAL

F- series 2-3.5T Internal Combustion Counterbalanced Forklift Truck

CPCD 20/25/30/35F
CPQ(Y)D 20/25/30/35F

KION Baoli (Jiangsu) Forklift Co., Ltd.

F-Series

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PREFACE

F-series balance weight type forklift trucks with engine are designed on the base of the advanced features available from both local and foreign designs. These trucks are suitable to handle, transport and stack goods in factories, mines, stations, ports, freight yards, warehouses and used widely in food processing, textiles and other light industries. The use of forklift trucks fitted with kinds of attachments will become extensive.

F-series forklift trucks feature a wide-vision mast system, full hydraulic steering unit, self-boost brake, stepless speed control, parking brake device with foot pedal, integral overhead guard and high quality large screen combination meter, so they have a lot of advantages such as good performance, easy operation, wide vision, flexible steering, reliable braking, powerful and aesthetic appearance.

This manual states the specifications, operation, maintenance, main assemblies' constructions and working principles of F-series forklift trucks so as to help operators to use the trucks correctly and attain the highest functions. It is necessary to read over the manual before operating or maintaining the forklift trucks. The rules and notices in this manual should be abided seriously by all relative persons to enable these trucks in optimized working state for long period and bring the highest efficiency.

The relevant content in this manual might not correspond with the actual condition because of technical improvement. Our products are subject to improvements and changes without notice.

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Ⅰ. About F-series forklift truck

1. External view and technical parameter

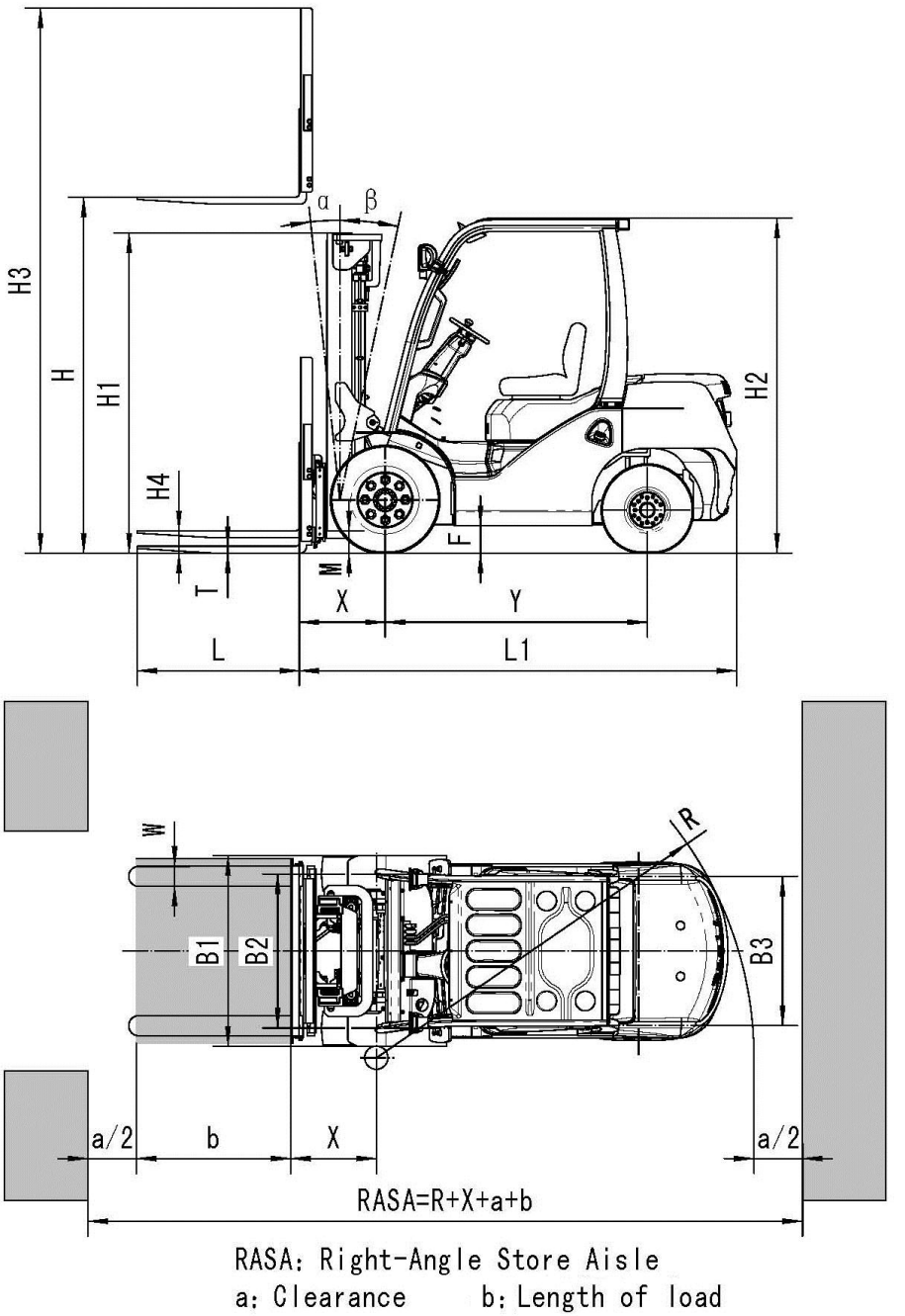

Fig1.1 External view

Technical parameter

General	Manufacturer				KION Baoli			
	Model				CPCD20F CPQ(Y)D20F	CPCD25F CPQ(Y)D25F	CPCD30F CPQ(Y)D30F	CPCD35F CPQ(Y)D35F
	Power type				Diesel/Gasoline/LPG			
	Rated capacity			kg	2000	2500	3000	3500
	Load center			mm	500			
Performance	Overall dimension	Length to fork face	L1	mm	2564	2634	2775	2814
		Overall width	B1	mm	1150		1236	
		Mast lowered height	H1	mm	2050		2080	2230
		Mast extended height	H3	mm	4040		4273	
		Overhead guard height	H2	mm	2150		2180	
	Lift height		H	mm	3000			
	Free lift height		H4	mm	140		145	
	Fork size		L×W×T	mm	1070×120×40	1070×120×45	1070×125×45	1075×130×45
	Mast tilt angle		α/β	deg	6 / 11			
	Front overhang		X	mm	484	489	494	500
	Turning radius		R	mm	2220	2290	2400	2490
	Self weight			kg	3510	3810	4320	4620
Chassis	Tyre	Front			7.00-12-12PR		28×9-15-12PR	28×9-15-14PR
		Rear			6.00-9-10PR		6.50-10-10PR	
	Tread	Front	B2	mm	970		1000	
		Rear	B3	mm	970			
	Wheelbase		Y	mm	1650		1700	1760
	Ground clearance (full load/no load)	Mast	M	mm	85 / 105		110 / 135	
		Frame	F		140 / 145		170 / 175	

F-series forklift trucks mentioned in this manual correspond in different engines, please refer to the following table.

Model of forklift truck		Model of engine
Diesel	CPCD20F	XINCHANG BPG490,ISUZU C240,YANMAR 4TNE92
	CPCD25F	XINCHANG BPG490,DACHAI CA498,ISUZU C240,ISUZU 4JG2PE,YANMAR 4TNE92
	CPCD30F	XINCHANG BPG490,XINCHANG BPG495,XINCHANG BPG498,DACHAI CA498,ISUZU C240,ISUZU 4JG2PE,YANMAR 4TNE98
	CPCD35F	XINCHANG BPG495,XINCHANG BPG498,DACHAI CA498,ISUZU 4JG2PE, YANMAR 4TNE98
Gasoline	CPQ(Y)D20/25F	MITSUBISHI 4G64-31ZG,NISSAN K21,NISSAN K25
	CPQ(Y)D30/35F	MITSUBISHI 4G64-31ZG,NISSAN K25

Notice: Please refer to AD sheet of F-series forklift truck about other technical parameters or new engine configuration not mentioned in this manual.

2. Characteristic

(1) The hydraulic steering device and transverse steering axle makes steering flexible and the turning radius minor.

(2) The braking system employs hydraulic brake, makes it possible to manipulate conveniently and brake reliably.

(3) Hydraulic transmission type forklift trucks are provided with a drive unit including a hydraulic torque converter and an electron transmission box. They feature the following:

·Hydraulic torque converter can change the speed automatically with no limitation and output torque makes the forklift truck have good performance of drawing.

·The inching device makes it easy for the drivers to aim the fork to the cargo.

·The use of hydraulic transmission ensures the engine operate smoothly for the sudden increase of load. At work, the forklift truck that needs starting and shifting frequently, electron transmission device can achieve smooth shift and raise working efficiency, simplify operation, reduce the driver's labor intensity and reduce requirement of the driver's operation skill.

(4) The mast is high intensity and wide vision for the use of two stage CC extension type mast and hidden-type tilt cylinder device. The forklift truck can be fitted with 2-stage or 3-stage full free lift mast having different lifting height, even all kinds of the attachments according to the needs of the clients.

(5) The forklift truck can be chosen different height mast and driver's cab according to the operating into container or out container.

(6) Specific outline adopts streamline design, wider operating vision and larger driving space. It has advantages such as low noise, vibration damping, dustproof, comfortable operation, safety and reliability.

3. Main system

No.	Name	Contents
1	Power system	engine mounting, fuel, exhaust and cooling system(inc. torque converter oil cooler) etc.
2	Transmission system	torque converter, gear box, transmission shaft, gearshift etc.
3	Drive axle	axle housing, half shaft, brake, front wheel etc.
4	Brake system	wheel brake and parking brake etc.
5	Steering system	steering wheel, cycloid gear type powered steering unit etc.
6	Hydraulic system	pump, valve, HP oil pipe, LP oil pipe, connectors etc.
7	Electric system	lamps and lanterns, battery, meter, harness etc.
8	Lifting system	mast, fork, lift bracket, load backrest, tilt cylinder, lift cylinder, lift chain, mast roller etc.

4. Main components

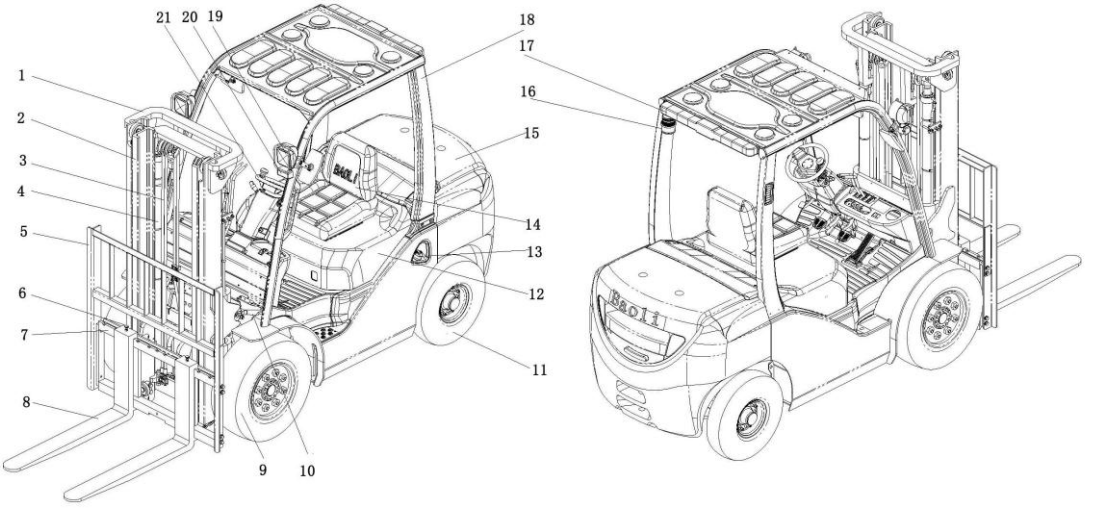

Fig1.2

1. Outer mast	2. Inner mast	3. Lift chain
4. Lift cylinder	5. Load backrest	6. Fork location pin
7. Lift bracket	8. Fork	9. Driving wheel
10. Tilt cylinder	11. Turning wheel	12. Engine hood
13. Refueling lid	14. Operator's seat	15. Counter weight
16. Flasher (option)	17. Rear combination lamp	18. Overhead guard
19. Head lamp	20. Front combination lamp	21. Steering wheel

Size & slinging parameter of the main parts that can be disassembled

	Max. outline size (mm)	Min. slinging capacity (Kg)
Counter weight	1130×739×955	1700
Standard mast	1935×854×600	730
Lift bracket (with load backrest)	1200×1197×260	170
Fork	1150×660×125	80

Notice: The above-mentioned size and capacity is only for a reference, which may be adjusted because of configuration difference or technology optimization.