

# **FTB 3 WHEELER TRUCK**

# **1.3-2.0 Tons**

**FTB13-20-9(LB)**



# TCM FORKLIFT TRUCKS

## Operationally Ready For Every Mission

### Improving Operator Comfort and Safety with Advanced Features

TCM Forklift Trucks has released a new series of rugged, nearly maintenance-free electric trucks, making them a great option for warehouses and logistics.

This series features a variety of advanced features, including superior cabin comfort, enhanced safety, and heavy-duty construction. With excellent load capacity, high stability, and a very stable chassis, this new generation of electric forklift trucks are engineered to the highest quality.





# TCM FORKLIFT SERIES

## Exceptional Power Controls

This range of FTB-IX series forklift trucks are equipped with AC Power and an innovative control system. This system provides advanced capabilities by combining hydraulic, electric, and travel power steering functions into a unified system.

Allowing operator to interact with the systems and controls on a high level of comfort, control, and functionality.

## Sustainable Operations with Eco-Friendly Forklift Trucks

“Great choice for your operations and the environment”

Despite battery-powered electric vehicles high initial cost, they are more economical in the long run as compared to typical diesel or gas-powered forklift truck

Beyond cost savings, electric forklift trucks are environmentally friendly as they do not produce pollutants such as carbon monoxide, nitrogen oxide or carbon dioxide. Since they are cleaner, they are more suitable for indoor environment like warehouse areas as compared to its internal combustion counterpart with lesser maintenance required for battery-powered forklift trucks.



# HOLISTIC INTEGRATION OF ADVANCED POWER FEATURES

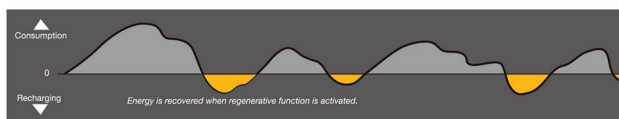
## Power Conservation using Regenerative Braking

The FTB-IX series forklift trucks are designed with advanced regenerative braking features. This feature allows trucks to conserve more energy while braking and slowing, which generally reduces brake wear over time. Regenerative braking also gives operators more immediate braking, allowing for overall safer operations.

Coasting mode is one of the regenerative feature of electric forklift trucks when you release the accelerator while cruising. Forklift trucks convert rolling kinetic energy into electricity by gradually decelerating and in the midst recharging the batteries.

### Energy-saving Design

TCM forklift trucks are energy misers thanks to onboard microprocessors and regenerative features that conserve battery power and contribute to higher productivity by reducing charging down time.



## Mast Tilting Mechanisms

The masts on FTB-IX series forklift trucks is able to tilt back 7.5 degrees. With the additional movement, the handler has greater control and manoeuvrability when handling bulky, odd-sized cargo.

## Slope Speed Control

While descending a slope, FTB-IX series forklift trucks maintain a constant speed after releasing the accelerator. In addition, the batteries recover energy from kinetic energy allowing the operators greater control. The FTB-IX series forklift trucks also feature a safety feature called "creep" that keeps the backward movement of the truck in a constant and controlled speed.

## Side Battery Loading (optional)

A forklift battery needs to be changed when necessary, which is a hectic process. For this reason, RIRO (Roll-In-Roll-Out) battery trays are available options for FTB-IX series forklift trucks which eliminating the hassle of batteries changing that help increase productivity.



### Clear Panel Displays

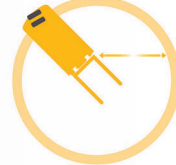
A large multifunctional Vacuum Fluorescent Display (VFD) located on the right side of the forklift truck cabin allows an operator a better view of the truck's forks. The operator is well informed on the performance of the vehicle by the clear visible and bright display and its programmed settings even under direct sunlight.



### Comfortable Turning Radius

The small turning radius of TCM FTB-IX series forklift trucks is made possible by dual tyres on the rear working with its front. Each of the front tyres is powered by an individual high torque motor, while the rear tyres have dual wheels that offers great stability. When the rear tyres exceed a certain angle during a turn, the piloting front wheel will automatically rotate in the reverse direction to help the forklift truck complete the turn.

Minimum turning radius:  
1500mm (FTB15)



### Practical right angle stacking aisle width: 3260mm

Model FTB15-9 with 1100 x 1100 mm pallet.  
Includes 200 mm clearance.



### Independently controlled front wheels



### Digital Load Indicator

TCM FTB-IX series forklift trucks feature a digital load meter as a standard feature that increases safety and productivity. The VFD indicates the weight of the load, which prevents possible overloading and allows operators and owners to verify the actual weight of the goods being moved.



### Ample Selection of Driving Modes

TCM Forklift Trucks feature an AC Power System that allows the driver to choose from eight different power settings, from energy-saving "ECONOMY" to high performance "POWER," depending on the task. The fact that the power output can be switched between different power modes makes lifting tasks more efficient.

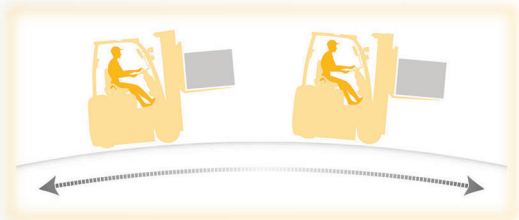
### Energy Saving Capabilities

If the forklift trucks remain stationary for more than 15 minutes, they are automatically shut off. Power can be conserved and wasted less by utilizing these energy-saving features.

# ENSURING SAFE AND COMFORTABLE OPERATIONS

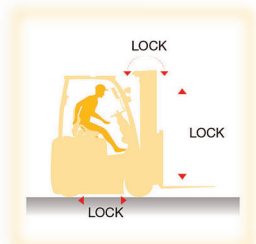
## Safeguarding Operations on Slopes

The FTB-IX series forklift trucks will not roll backward more than 1 km/h on a slope, even when the accelerator or brake is released. While descending slopes, the forklift truck can also maintain the same speed after releasing the accelerator. Using this feature allows operators to stay safe while their batteries are being charged at the same time.



## Mast and Travel Interlock System

FTB-IX series forklift trucks is equipped with Mast and Travel Interlock System an important safety feature. When the operator is not seated properly within two seconds, this feature locks the hydraulics and travel functions of the forklift truck. This safety feature could prevent forklift truck accidents caused by unseated operators.



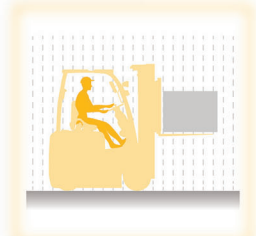
## Pitching Control System

Pitching Control System help dampen the vehicle's pitching when on uneven surfaces and over humps. This allows for better handling of sensitive cargo, such as glass, or high-precision equipment, with this extra level of control.



## Higher IPX4 Rating

Forklifts in this FTB-IX series forklift trucks now have an IPX4 rating, meaning they are protected from water spray from all directions. Rain or water contact outside will no longer cause system malfunctions or downtime, increasing safety and productivity.



### Neutral Safety System

While in Key-on, when a hydraulic lever is accidentally operated, or when the accelerator pedal pressed combined with the FNR lever in the "F" or "R" position will cause an error message to appear. The error must be corrected, as the forklift trucks has been immobilised till the issue is resolved. Thanks to this safety system, the forklift truck will not move unexpectedly while turn on.

### Advanced Braking System

FTB-IX series forklift trucks has incorporated an advanced braking system into its forklift trucks by using wet disc brakes. This is suited for demanding applications and environments with a more powerful and consistent braking systems. The system only requires periodic oil changes, making it easy to maintain with the addition of it being dust and water resistant.

### Increased Legroom & Floor Mat

This FTB-IX series forklift trucks come with Large legroom. All models come with scuff- resistant rubber floor mats.





### Electric Power Steering

Whenever you are moving large objects, you need a steering system you can count on. With an electric power steering rather than hydraulics, the steering is easier and effortless.



### Better Footsteps and Handgrips

This series of forklift trucks have easy access to enter and exit due to the integrated step and large handgrip.

### Ergonomic Seats for Maximum Comfort

FTB-IX series forklift trucks are equipped with the ergonomic Operator Restraint Suspension (ORS) seat. This seat is designed to keep the operator in comfortable and relaxed position by maintaining a consistent optimal driving posture and comfort while reducing fatigue and strain.

### Rear Combination Lamps

In order to prevent damage to their trucks, FTB-IX series forklift trucks now have their rear lamps mounted at the top of their trucks for clear visibility.

### Parking Brake Warning

A warning buzzer will sound if a forklift driver leaves their cab without engaging the parking brake. Operators and workplace safety will be improved with this simple feature.

### Assist Grip with Horn

To prevent accidents, FTB-IX series forklift trucks feature a back grip installed on the right rear pillar with a horn button on the grid. Allowing drivers to warn those around the vehicle while backing up, the truck.



# IMPROVING SERVICEABILITY WITH CONVENIENCE

FTB-IX series forklift trucks are equipped with auto-diagnosis and status reporting capabilities.

An operator is alerted to error types, natures, and locations when an issue arises. These details are also stored in the onboard computer's memory for maintenance purposes.

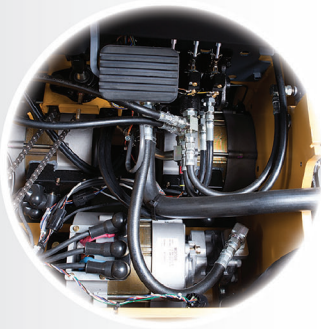
## Ease of Access for Maintenance

**Battery:** Simple and convenient battery maintenance is available. An air structure cylinder makes it easy to open and close the battery cover safely.

**Electric Power Steering (EPS) Motor:** The EPS motor is located in the compartment under the battery cover for easy access.

**AC Power Controller:** Easy removable the chassis side plates to reveal the controller compartment.

**Hydraulic Motor:** The hydraulic motor compartment, which contains the hydraulic tank, can be accessed by removing the floor plate.

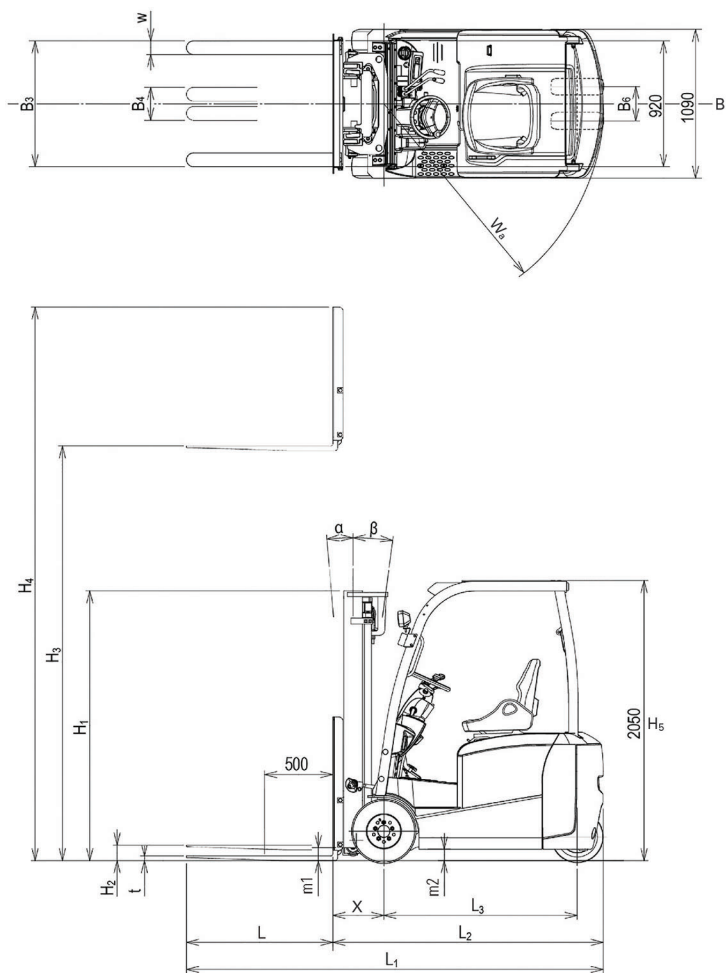


# SPECIFICATIONS

	Item	Summary	Unit	Standard Series					Long Wheel
	Type			Base Series					
1.1	Model			FTB13-9	FTB15-9	FTB16-9	FTB18-9	FTB20-9	FTB20-9LB
1.2	Rated capacity	Q	kg	1300	1500	1600	1800	2000	2000
1.3	Load center	LC	mm	500	500	500	500	500	500
1.4	Operator type	Stand-on / Seated		Seated	Seated	Seated	Seated	Seated	Seated
Dimensions									
2.1	Lift height	H <sub>2</sub>	mm	3000	3000	3000	3000	3000	3000
2.2	Free lift	H <sub>1</sub>	mm	115	115	115	115	120	120
2.3	Tilt angle	For-/Back-ward <F-/Down/Up>	α/β deg.	<Mast> 5/7.5	<Mast> 5/7.5	<Mast> 5/7.5	<Mast> 5/7.5	<Mast> 5/7.5	<Mast> 5/7.5
2.4	Fork	Carriage		Class II A	Class II A	Class II A	Class II A	Class II A	Class II A
2.5	Dimensions (L / W / T)	L / w / t	mm	1070 / 100 / 35	1070 / 100 / 35	1070 / 100 / 35	1070 / 100 / 35	1070 / 122 / 40	1070 / 122 / 40
2.6	Spread (Max / Min)	B <sub>2</sub> /B <sub>1</sub>	mm	920 / 240	920 / 240	920 / 240	920 / 240	1000 / 245	1000 / 245
2.7	Overall length	L <sub>1</sub>	mm	2855	2955	3050	3105	3175	3255
2.8	Length	to fork face	L <sub>2</sub>	1785	1885	1980	2035	2105	2185
2.9	Width	Overall width	B	1090	1090	1090	1090	1090	1090
2.10	Height	Mast lowered	H <sub>1</sub>	1975	1975	1975	1975	1975	1975
2.11		Mast extended	H <sub>2</sub>	4015	4015	4015	4015	4000	4000
2.12		Overhead guard	H <sub>3</sub>	2050	2050	2050	2050	2050	4000
2.13	Overhang	Front overhang	X	375	375	375	375	415	415
2.14	Min. turning radius	W <sub>s</sub>	mm	1410	1510	1605	1660	1690	1770
2.15	Practical 90° turning aisle	1100 x 1100 Pallet	mm	1930	1960	1990	2000	2020	2050
2.16	Practical 90° stacking aisle	1100 x 1100 Pallet	mm	3185	3285	3380	3435	3505	3585
Performance									
3.1	Travel speed	Laden / Unladen	km/h	15.0 / 16.5	15.0 / 16.5	14.5 / 16.0	14.5 / 16.0	14.0 / 15.5	14.0 / 15.5
3.2	Lifting speed	Laden / Unladen	mm/s	400 / 610	380 / 610	360 / 610	360 / 610	300 / 500	300 / 500
3.3	Lowering speed	Laden / Unladen	mm/s	550 / 500	550 / 500	550 / 500	550 / 500	550 / 500	550 / 500
3.4	Max. drawbar pull	3min. rating, 1.5km/h and over	N	7530	7390	6910	7530	7550	7550
3.5	Max. gradeability	3min. rating, 1.5km/h and over	%	20 / 20	18 / 20	15 / 20	15 / 20	14 / 17	14 / 17
Mass									
4.1	Service weight	w/o battery (6.3)	kg	2075	2105	2080	2220	2595	2285
4.2	Axle loading	Laden (Front / Rear)	kg	3460/465	3735/455	3820/445	4155/515	4650/595	4815/590
4.3		Unladen (Front / Rear)	kg	1230/1395	1245/1445	1235/1430	1245/1625	1355/1890	1615/1790
Chassis									
5.1	Tyres : Number	Front / Rear (X=Drive)		2X / 2	2X / 2	2X / 2	2X / 2	2X / 2	2X / 2
5.2	Tyres	Front	mm	18x7-8-14PR	18x7-8-14PR	18x7-8-16PR	18x7-8-16PR	18x7-8 (N.P.) <sup>②</sup>	18x7-8 (N.P.) <sup>②</sup>
5.3		Rear	mm	15x4 1/2 -8-12PF	15x4 1/2 -8-12PF	15x4 1/2 -8-12PF	16x6-8-10PR	16x6-8-10PR	16x6-8-10PR
5.4	Wheelbase	L <sub>3</sub>	mm	1220	1320	1415	1415	1415	1525
5.5	Tread	Front	mm	920	920	920	920	920	920
5.6		Rear	B <sub>3</sub>	250	250	250	230	230	230
5.7	Ground clearance	Min.	m1	85	85	85	85	85	85
5.8		Middle of wheelbase	m2	85	85	85	85	85	85
5.9	Service brake	Mech. / Hydr. / Electr. / Pneum.		Hydr.	Hydr.	Hydr.	Hydr.	Hydr.	Hydr.
5.10	Parking brake	Foot / Hand / Deadman		Hand	Hand	Hand	Hand	Hand	Hand
Motors									
6.1	Battery	Type		BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS
6.2		Volts / Ampere hrs (SHR)	V/Ah	48 / 320	48 / 350	48 / 350	48 / 390	48 / 390	48 / 730
6.3		Mass (with case)	kg	550	595	595	650	650	1120
6.4	Drive motor	60min. rating control	kw	2 x 4.5 Inverter	2 x 4.5 Inverter	2 x 4.5 Inverter	2 x 4.5 Inverter	2 x 4.5 Inverter	2 x 4.5 Inverter
6.6	Hydraulic motor	5min. rating control	kw	9.5 Inverter	9.5 Inverter	9.5 Inverter	9.5 Inverter	9.5 Inverter	9.5 Inverter
6.7		60min. rating control	kw	0.3	0.3	0.3	0.6	0.6	0.6
6.8	Power steering motor	Chopper		Chopper	Chopper	Chopper	Chopper	Chopper	Chopper
6.10	Charger	Type (Built-in / Stationary)		Stationary	Stationary	Stationary	Stationary	Stationary	Stationary
6.11		Input	φ/V	3 / 200	3 / 200	3 / 200	3 / 200	3 / 200	3 / 200
6.12		Capacity	kVA	4.7	6.5	6.5	6.5	6.5	11.0
7.1	Operating pressure	for Attachments	MPa	13.7	13.7	15.7	15.7	18.1	18.1



**FTB13-20-9(LB)**





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