



*Ready to Perform
To Your Applications*



Mitsubishi Forklift Trucks

FB-TCB S E R I E S

Three-Wheel Electric Counterbalanced Pneumatic Tyre

1.3-2.0 Ton



www.mitforklift.com.sg

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FMIT0112

(04/12)

PRESENTED BY:

Note: Performance specifications may vary depending on standard manufacturing tolerances, vehicle condition, types of tyres, floor or surface conditions, applications or operating environment. Trucks may be shown with non-standard options. Specific performance requirements and locally available configurations should be discussed with your Mitsubishi forklift truck dealers. Mitsubishi Forklift Trucks follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.

Dependable, Efficient & Environmentally Friendly.

Mitsubishi Forklift Trucks FB-TCB Series

STANDARD SPECIFICATIONS

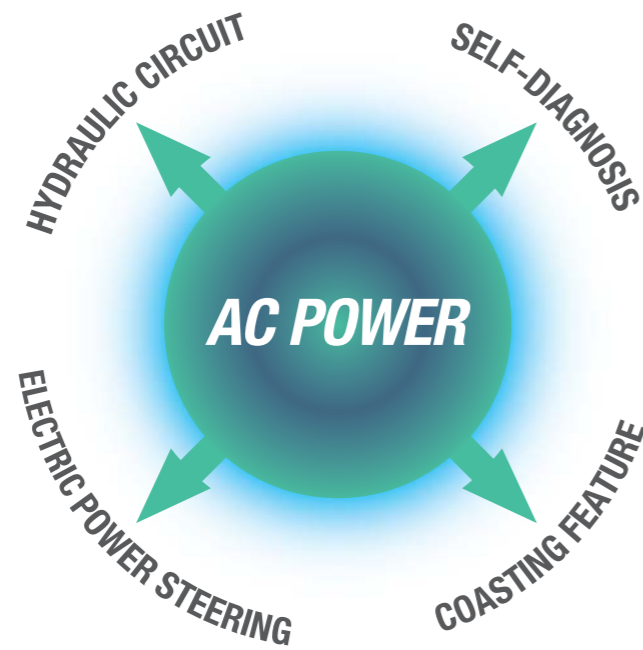
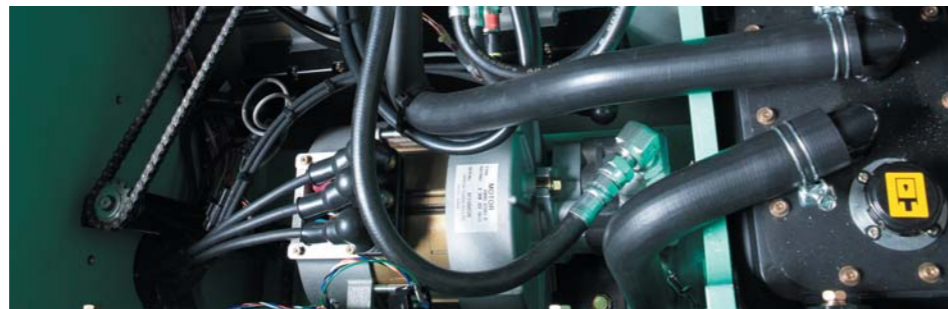
	Item	Summary	Unit	STANDARD SERIES					LONG WHEEL BASE SERIES				
				FB13TCB	FB15TCB	FB16TCB	FB18TCB	FB20TCB	FB16TBCB	FB18TBCB	FB20TBCB		
Type	1.2	Model		FB13TCB	FB15TCB	FB16TCB	FB18TCB	FB20TCB	FB16TBCB	FB18TBCB	FB20TBCB		
	1.3	Rated capacity	Q	1300	1500	1600	1800	2000	1600	1800	2000		
	1.4	Load center	C	500	500	500	500	500	500	500	500		
	1.6	Operator type	Stand-on / Seated	Seated	Seated	Seated	Seated	Seated	Seated	Seated	Seated		
Dimensions	2.1	Lift height	Hs	mm	3000	3000	3000	3000	3000	3000	3000		
	2.2	Free lift	Hz	mm	115	115	115	115	120	115	115		
	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	<Mast> 5 / 7.5		
	2.4	Carriage			Class II A	Class II A	Class II A	Class II A	Class II A	Class II A	Class II A		
	2.5	Fork	Dimensions (L / W / T)	ℓ / w / t	mm	1070 / 100 / 35	1070 / 100 / 35	1070 / 100 / 35	1070 / 100 / 35	1070 / 122 / 40	1070 / 100 / 35	1070 / 100 / 35	1070 / 122 / 40
	2.6	Spread (Max / Min)	B3 / B4	mm	920 / 240	920 / 240	920 / 240	920 / 240	1000 / 245	920 / 240	920 / 240	1000 / 245	
	2.7	Length	Overall length	L ₁	mm	2855	2955	3050	3105	3175	3160	3215	3255
	2.8	Length	to fork face	L ₂	mm	1785	1885	1980	2035	2105	2090	2145	2185
	2.9	Width	Overall width	B	mm	1090	1090	1090	1090	1090	1090	1090	
	2.10	Height	Mast lowered	H ₁	mm	1975	1975	1975	1975	1975	1975	1975	
	2.11	Height	Mast extended	H ₄	mm	4015	4015	4015	4015	4000	4015	4015	
	2.12	Height	Overhead guard	H ₅	mm	2050	2050	2050	2050	2050	2050	2050	
	2.13	Overhang	Front overhang	F	mm	375	375	375	375	415	375	375	
	2.14	Min. turning radius	R	mm	1410	1510	1605	1660	1690	1715	1770	1770	
	2.15	Practical 90° turning aisle ⁽¹⁾	1100 x 1100 Pallet	mm	1930	1960	1990	2000	2020	2030	2040	2050	
	2.16	Practical 90° stacking aisle ⁽¹⁾	1100 x 1100 Pallet	As	mm	3185	3285	3380	3435	3505	3490	3545	
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	14.5 / 16.0	14.5 / 16.0	14.0 / 15.5	
	3.3	Lifting speed	Laden / Unladen	mm/s	400 / 610	380 / 610	360 / 610	360 / 610	300 / 500	360 / 610	360 / 610	300 / 500	
	3.4	Lowering speed	Laden / Unladen	mm/s	550 / 500	550 / 500	550 / 500	550 / 500	550 / 500	550 / 500	550 / 500		
	3.5	Max. drawbar pull	3min. rating, 1.5km/h and over	N	7530	7390	6910	7530	7550	6910	7530	7550	
	3.6	Max. gradeability	3min. rating, 1.5km/h and over	%	20 / 20	18 / 20	15 / 20	15 / 20	14 / 17	15 / 20	15 / 20	14 / 17	
	Mass	4.1	Service weight	w/o battery (6.3)	kg	2075	2105	2080	2220	2595	1930	2180	2285
4.2		Axle loading	Laden (Front / Rear)	kg	3460 / 465	3735 / 455	3280 / 455	4155 / 515	4650 / 595	4020 / 630	4315 / 785	4815 / 590	
4.3		Axle loading	Unladen (Front / Rear)	kg	1230 / 1395	1245 / 1445	1235 / 1430	1245 / 1625	1355 / 1890	1505 / 1545	1485 / 1815	1615 / 1790	
Chassis	5.1	Tyres : Number	Front / Rear (X=Drive)		2X / 2	2X / 2	2X / 2	2X / 2	2X / 2	2X / 2	2X / 2		
	5.2	Tyres	Front		18x7-8-14PR	18x7-8-14PR	18x7-8-16PR	18x7-8-16PR	18x7-8 (N.P.) ⁽²⁾	18x7-8-16PR	18x7-8-16PR	18x7-8 (N.P.) ⁽²⁾	
	5.3	Tyres	Rear	mm	15x4 1/2-8-12PR	15x4 1/2-8-12PR	15x4 1/2-8-12PR	16x6-8-10PR	16x6-8-10PR	15x4 1/2-8-12PR	16x6-8-10PR	16x6-8-10PR	
	5.4	Wheelbase	L3	mm	1220	1320	1415	1415	1415	1525	1525	1525	
	5.5	Tread	Front	mm	920	920	920	920	920	920	920		
	5.6	Tread	Rear	B _s	mm	250	250	250	230	230	250	230	
	5.7	Ground clearance	Min.	m1	mm	85	85	85	85	85	85	85	
	5.8	Ground clearance	Middle of wheelbase	m2	mm	85	85	85	85	85	85	85	
	5.9	Service brake	Mech. / Hydr. / Electr. / Pneum.	mm	Hydr.	Hydr.	Hydr.	Hydr.	Hydr.	Hydr.	Hydr.	Hydr.	
	5.10	Parking brake	Foot / Hand / Deadman		Hand	Hand	Hand	Hand	Hand	Hand	Hand		
Motors	6.1	Battery	Type		BS / JIS	BS / JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS	BS/JIS		
	6.2	Battery	Volts / Ampere hrs (5HR)	V/Ah	48 / 320	48 / 350	48 / 350	48 / 390	48 / 390	48 / 730	48 / 730		
	6.3	Battery	Mass (with case)	kg	550	595	595	650	650	1120	1120		
	6.4	Drive motor	60min. rating	kw	2 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5	2 x 4.5		
	6.5	Drive motor	control		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter		
	6.6	Hydraulic motor	5min. rating	kw	9.5	9.5	9.5	9.5	9.5	9.5	9.5		
	6.7	Hydraulic motor	control		Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter		
	6.8	Power steering motor	60min. rating	kw	0.3	0.3	0.3	0.6	0.6	0.3	0.6		
	6.9	Power steering motor	control		Chopper	Chopper	Chopper	Chopper	Chopper	Chopper	Chopper		
	6.10	Power steering motor	Type (Built-in / Stationary)		Stationary	Stationary	Stationary	Stationary	Stationary	Stationary	Stationary		
6.12	Charger	Input	φ/V	3 / 400	3 / 400	3 / 400	3 / 400	3 / 400	3 / 400	3 / 400			
6.13	Charger	Capacity	kVA	4.7	6.5	6.5	6.5	6.5	11.0	11.0			
7.1	Operating pressure	for Attachments	MPa	13.7	13.7	15.7	15.7	18.1	15.7	15.7			

Above specifications are based on the standard truck with 3 meters simplex mast. They may vary by mast type & lifting height, tyres, battery capacity and/or warming up condition. *1) 200mm clearance included *2) N.P.: No puncture tyre

ADVANCED TECHNOLOGY

TOTAL CONTROL

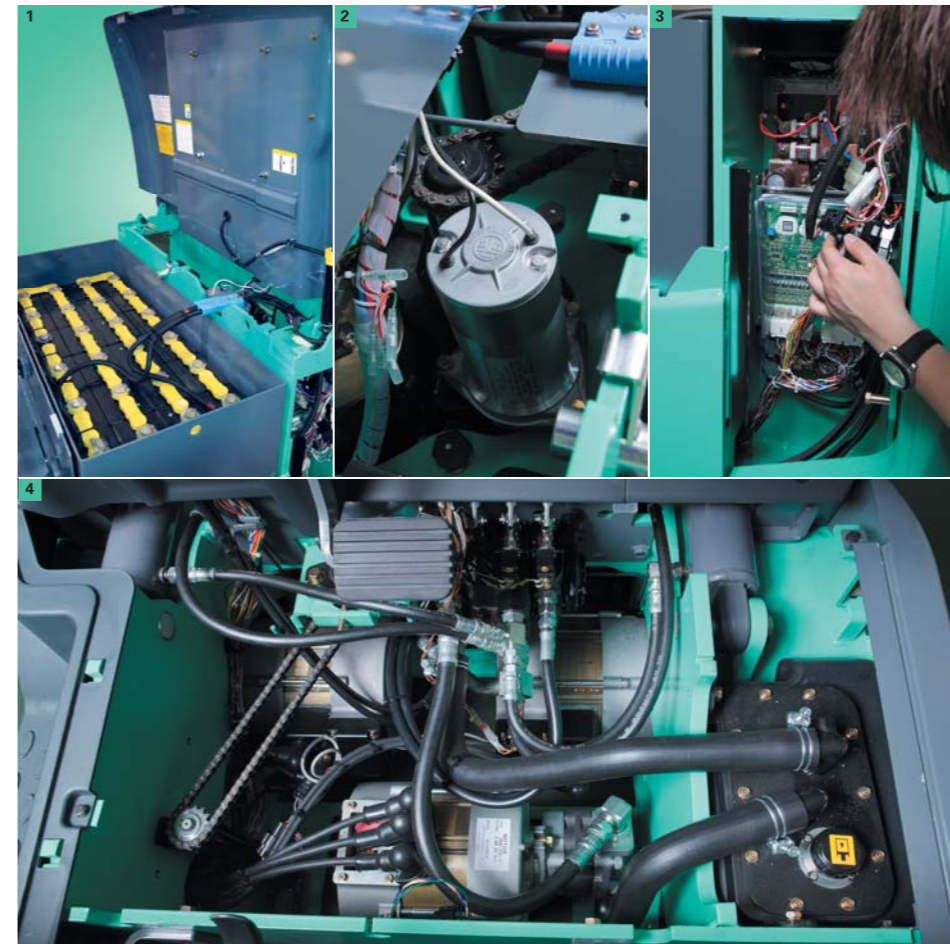
All FB-TCB series forklift trucks are installed with the innovative AC Power control system. It provides for more powerful and more advanced capabilities by integrating travel, hydraulic and electric power steering functions into one cohesive system. The result: The operator's interaction with systems and controls is optimised to a whole new level of comfort, control and function.



SERVICEABILITY

All FB-TCB Mitsubishi forklift trucks are able to self diagnose and report status conditions automatically. In the unlikely event of a problem, a message on the display alerts the operator to the nature, type and location of the error. The information is also logged in the memory of the on-board computer to facilitate maintenance work.

EASY ACCESS TO COMPONENTS:



1 Battery: Maintenance of the battery is convenient and easy. The battery cover can be opened to a wide angle, assisted by an air strut cylinder.

2 Electric Power Steering (EPS) Motor: Opening of the battery cover allow access to the EPS motor compartment as well.

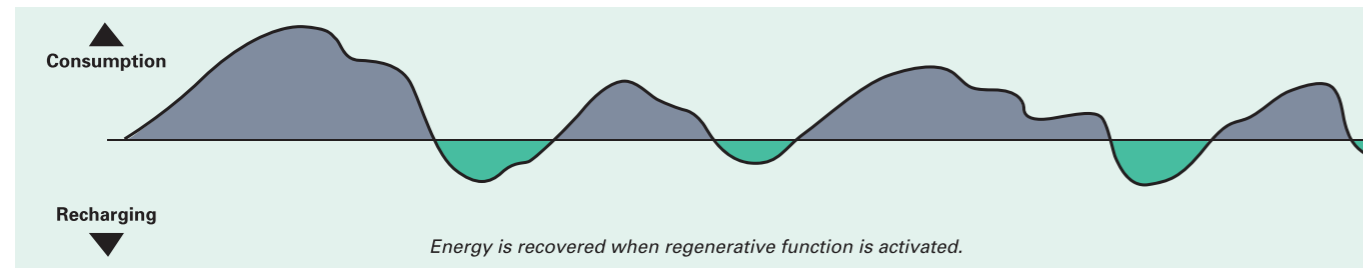
3 AC Power Controller: The chassis side plates are removed in a few simple steps to expose the controller compartment.

4 Hydraulic Motor: Removal of the floor plate allows access to the hydraulic motor compartment, including the hydraulic tank.

PERFORMANCE

ENERGY SAVING BY DESIGN

FB-TCB Mitsubishi 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.



BRAKING, TRAVEL PLUGGING AND COASTING

The FB-TCB series forklift trucks are designed for efficiency and equipped with advanced regenerative braking, which recovers energy drawn from the battery while “plugging” (using the opposite travel direction to slow or stop the unit). Regenerative braking also reduces wear on brakes, resulting in lower maintenance costs. This feature also provides for more sensitive, reactive braking for truck operators.

Another regenerative characteristic is when the electric forklift truck is put in a coasting mode – when the accelerator is released while cruising. The forklift truck converts the rolling kinetic energy into electricity and returns it back to the battery, while creating a gradual deceleration.

EASY-TO-READ DISPLAY

A large multi-function Vacuum Fluorescent Display (VFD) is located at the right side of the forklift truck cabin, which helps give the operator a better, unobstructed view of the fork. The display also provides highly visible readouts, even in bright sunlight, keeping the operator fully informed about programmed settings and vehicle performance at all times.

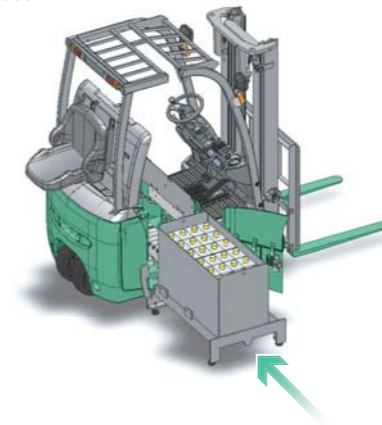


MAST BACKWARD TILTING INCREASED

Another new upgrade to the FB-TCB series forklift trucks is that all Simplex Masts are able to tilt backward by 7.5 degrees – 1.5 degrees more than the previous series. The additional movement allows truck operators greater control and handling ability when moving difficult cargo.

SIDE BATTERY LOADING (RIRO) Optional

When it becomes necessary, changing forklift batteries can be a time consuming procedure. To facilitate easier battery changeovers, Mitsubishi Forklift Trucks has developed an optional, side Roll-In-Roll-Out (RIRO) battery tray for all its FB-TCB forklift trucks. This option saves time and helps increase productivity by making difficult battery changes a thing of the past.



SPEED CONTROL ON SLOPES

When descending a slope, the FB-TCB series forklift trucks are able to maintain a constant speed even after the accelerator is released. This gives operators better control and, at the same time, the batteries recover energy from the kinetic energy. FB-TCB forklift trucks are also equipped with a safety “creep” feature, which ensures truck backwards movement is maintained at a constant, controlled speed.

POWER TURNS OFF AUTOMATICALLY

Power is automatically shut off when the forklift truck remains unused after 15 minutes. This energy saving feature conserves battery life and eliminates waste and exhausted batteries.

MULTIPLE DRIVING MODES

Mitsubishi Forklift Trucks AC Power system allows the power setting to be switched between eight driving / operation modes from



the energy saving “ECONOMY” to the high performance “POWER,” according to the task required. This ability to switch energy consumption modes means that the optimal amount of power can be used for specific lifting tasks.

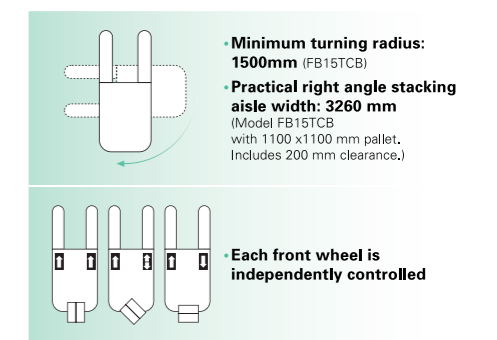


DIGITAL LOAD INDICATOR

To improve productivity and safety, all FB-TCB series forklift trucks come with a digital load meter as standard. The load, indicated on the VFD, prevents possible overloading and helps operators/owners verify the weight of goods being moved.

BETTER TURNING RADIUS

The new FB-TCB series forklift trucks achieve their small turning radius with the help from both the dual rear and front tyres. The dual rear tyres provide more stability when turning, while individual high torque motors power the front tyres. Once 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.



SAFETY AND COMFORT

WET DISC BRAKES

Mitsubishi Forklift Trucks has incorporated an advanced Wet Disc Braking system into its forklift trucks. This advanced braking system provides more powerful and consistent stopping power to meet more demanding applications and environments. The system is also resistant to dust and water contamination and is easy to maintain because it only requires periodic oil replacement.



MAST AND TRAVEL INTERLOCK

An essential safety feature on the FB-TCB series forklift trucks is the Mast and Travel Interlock System. If the operator is not properly seated within two seconds, the mast and travel interlock safety feature is activated, locking the forklift truck's hydraulics and travel functions. This safety feature is essential because it prevents forklift truck accidents that might happen when operators are not seated.



PITCHING CONTROL SYSTEM

An advanced safety feature now incorporated in all FB-TCB forklift trucks is the newly developed Pitching Control System. This feature slows and controls truck motion to counteract vehicle pitching when going over humps or travelling on uneven ground. This extra control helps when moving delicate cargo like glass or precision equipment.



REAR COMBINATION LAMPS

To prevent lamps from damage and to improve their visibility, the new FB-TCB series forklift trucks now have their rear lamps placed at the top of the cab.



PARKING BRAKE WARNING

If an operator leaves the cab without engaging the forklift truck's parking brake a warning buzzer will sound. This simple feature makes for better workplace and operator safety.

ASSIST GRIP WITH HORN

To avoid accidents, the new FB-TCB forklift trucks now have a back grip mounted on the rear right pillar. Attached to the grip is a horn button that enables drivers to alert those around or near the vehicle when it is backing up.



INCREASED LEGROOM & FLOOR MAT

All FB-TCB Mitsubishi forklift trucks now come with larger cabin legroom. And a new scuff resistant rubber floor mat is now standard on all models.



NEUTRAL SAFETY SYSTEM

During key-on, if any of the hydraulic levers are accidentally actuated, or when the accelerator pedal is depressed together with the FNR lever in the "F" or "R" position, an error message will appear on the display. The forklift truck will be immobilised until the error is rectified. This safety system prevents accidents that might be caused by unexpected movement of the forklift truck at key-on.

IPX4 RATING

All FB-TCB series electric forklift trucks now come with a higher IPX4 rating, which means the forklift and its systems are protected against water spray from all directions and any angles. This eliminates system malfunctions and down time due to contact with water or rain while working outdoors, providing for better productivity and safety.



SAFETY ON SLOPES

On an upslope, even when the accelerator or the brake pedal is released on the FB-TCB series, the forklift trucks will only roll backward at a speed less than 1 km/h. When descending a slope, the forklift truck is also able to maintain the same speed after the accelerator is released. The feature provides for operator's peace of mind, while also recharges the battery.



ELECTRIC POWER STEERING

When moving large objects you need a dependable and tough steering system. Mitsubishi forklift truck's FB-TCB series uses electric power steering instead of hydraulic because it is smoother & much more responsive – making forklift truck steering easy and effortless.



COMFORT ORS SEAT

Each FB-TCB series forklift truck comes standard with an ergonomically designed Operator Restraint Suspension (ORS) safety seat. The seat is designed to maintain the operator's optimal driving comfort and posture, while alleviating fatigue and strain.



FOOT STEP AND LARGE GRIP FOR EASIER BOARDING

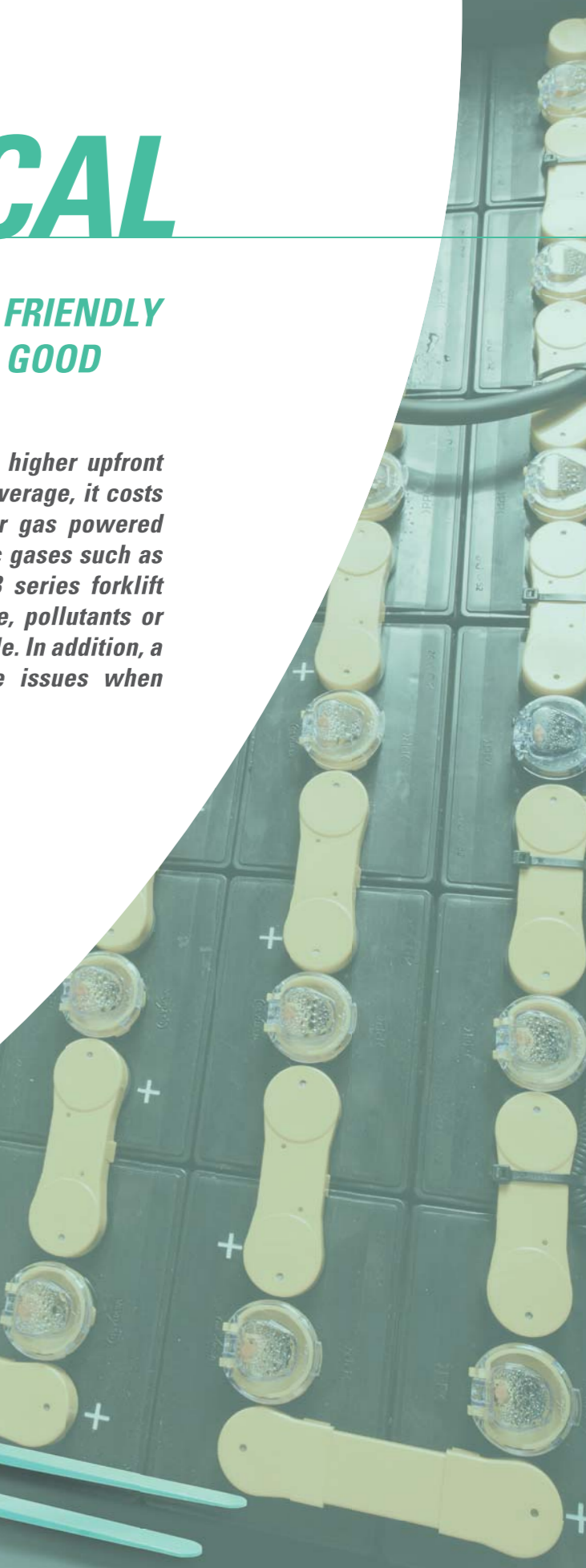
Getting in and out of a FB-TCB Mitsubishi series forklift truck is easy thanks to the integrated step and large handgrip.



ECONOMICAL

ECONOMICAL & ENVIRONMENTALLY FRIENDLY FORKLIFT TRUCKS THAT MAKE FOR A GOOD INVESTMENT

While electric battery driven vehicles tend to have a higher upfront cost, they do pay for themselves in the long term. On average, it costs less to run an electric forklift truck than a diesel or gas powered vehicle. Electric forklift trucks emit absolutely no toxic gases such as CO, NOx or CO2 that can cause air pollution. FB-TCB series forklift trucks are perfect for indoor applications where noise, pollutants or particulate contamination is undesirable or unacceptable. In addition, a battery-operated forklift truck has less maintenance issues when compared to its internal combustion counterparts.



OPTIONS



FINGERTIP CONTROL

Super sensitive control levers allow for effortless operation for greater ease of use and productivity. As large arm movements are not necessary, operation fatigue is reduced even for extending periods of work.



LASER POINTER

A laser pointer targets pallets in the path of the forklift truck to indicate the reach and direction of the vehicle, so that work can be carried out under even less than optimal lighting conditions. This option helps prevent inadvertent damage to pallets, truck or goods.



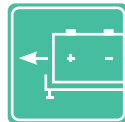
ADDITIONAL RUST PROOFING

Rust resistant parts are used for the backrest, floor and the underside of the frame, which are the areas usually prone to rust. This protection is ideal for work related to marine products or ocean side operations.



LIFT LIMIT

This option allows operators to set fork height limits.



SIDE BATTERY LOADING

All FB-TCB Mitsubishi series forklift trucks have a Rapid Lateral Battery exchange option that allows for simple, quick, safe battery removal and replacement.

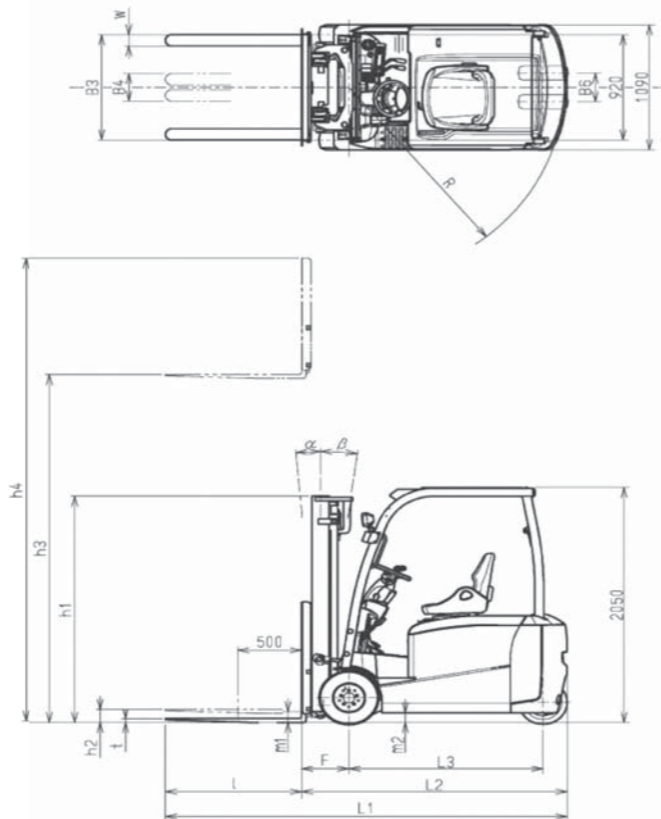


INTEGRAL SIDE SHIFTER

A built in, integrated side shifter makes lateral fork adjustment easy without reducing load capacity.

STANDARD FEATURES

- Longer legroom than previous models
- 7.5 Degrees Back Tilting Mast
- Emergency Switch
- IPx4 Water Rating
- Improved Cab Comfort
- Digital Load Indicator
- Pitching Control System
- Assist Grip with Horn
- Rear Combination Lamps
- Parking Brake Alert
- Right Side Easy to Read Display
- Added Floor Step for Easy On/Off access to truck



Comfort & Safety with a Host of Advanced Standard Features

Mitsubishi Forklift Trucks' new series of 3-wheel electric trucks are ideal for the logistics and warehousing industry, providing clean and robust power with nearly maintenance-free operation. Besides uncompromising cab comfort, improved safety and heavy duty construction, these new-generation, superior electric forklift trucks come with a very stable chassis and excellent load capacity performance. They also offer a wide range of standard features not usually found on other electric forklift trucks in their class.

