

TCM

ELECTRIC THREE WHEEL FORKLIFT TRUCKS

FTB-VII SERIES

FTB16-7 / FTB18-7 / FTB20-7



THE TCM FTB-VII SERIES

The TCM FTB-VII Series electric three-wheel forklift trucks come with remarkable improvements.

FTB16-7 Max. Capacity: 1,600kg (3,200lb) / Load Center: 500mm(24 in.)

FTB18-7 Max. Capacity: 1,750kg (3,500lb) / Load Center: 500mm(24 in.)

FTB20-7 Max. Capacity: 2,000kg (4,000lb) / Load Center: 500mm(24 in.)

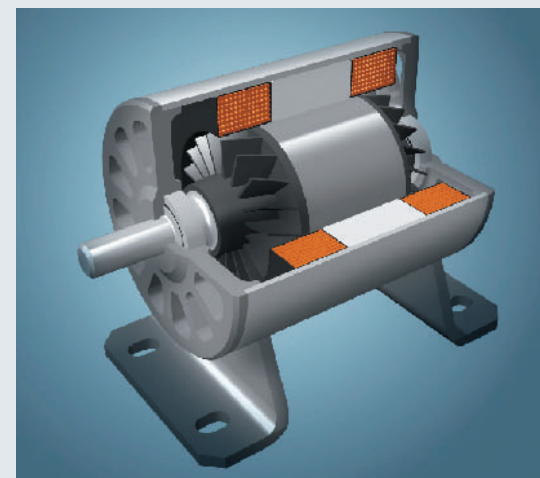


- UPGRADED BASIC PERFORMANCE
- ERGONOMICS
- NUMEROUS SAFETY DEVICES
- SIMPLIFIED MAINTENANCE

UPGRADED BASIC PERFORMANCE

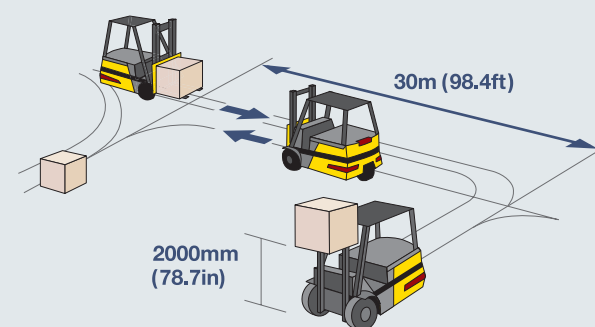
AC Motors

The AC motor has various advantages - compact construction, high performance, regenerative braking, and simple maintenance.



Ample battery power:
8.0-hour continuous operation :
JIVAS F30:2000 DIN 48V 625AH/5H

Model: FTB16-7(Power Mode), Discharge level 75%, Operating ratio 55%



Top-Class Travel Speeds and Loading Speeds

Travel Speed:	without load	16.5km/h (10.3 mph)
	with load	15.0km/h (9.3 mph)

Lifting Speed:	without load	610mm/s (120 fpm)
	with load	410mm/s (80.7fpm)

Model: FTB16-7 with 48v battery (Super Mode)

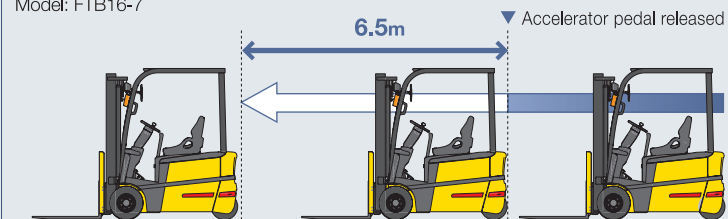
Travel speed and loading speed can be adjusted to job needs. This status appears on the monitor display.

Regenerative Functions

1. Braking without using foot pedal
2. Recharging the battery

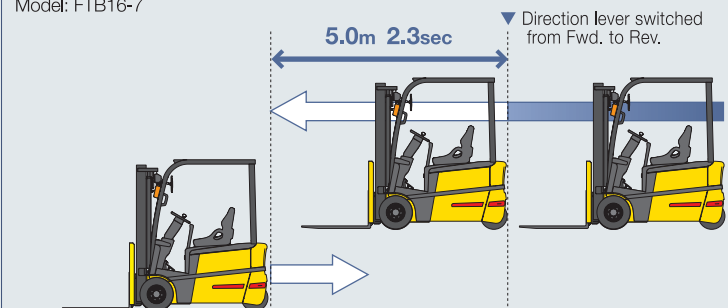
When Releasing Accelerator Pedal:

Model: FTB16-7



When Shifting the Travel Lever from Forward to Reverse:

Model: FTB16-7



In addition to releasing accelerator pedal and shifting the travel lever from forward to reverse, the regenerative braking can be applied with the foot pedal when descending slope or stopping the machine.

UPGRADED BASIC PERFORMANCE



ERGONOMICS



Three Work Modes

Three work modes can be selected to suit job needs. Also, three travel/lifting modes – Economy, Power and Super – are available. Travel and lifting speeds can be programmed to each mode.

SPEED COMPARISONS

Travel Speed (Unloaded)

Model: FTB16-7

Economy Mode 15.5 km/h (9.6 mph) 8.1 hours

Power Mode 16.0 km/h (9.9 mph) 8.0 hours

Super Mode 16.5 km/h (10.3 mph) 7.0 hours

Lifting Speed (Unloaded)

Model: FTB16-7

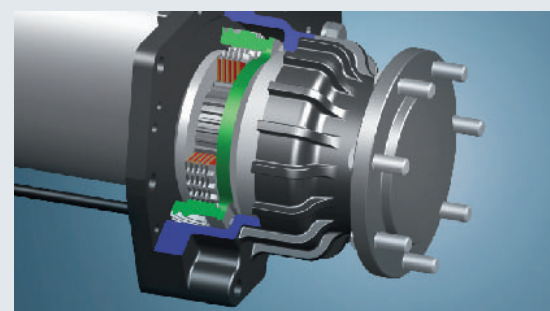
Economy Mode 570mm/s (112.2rpm) 8.1 hours

Power Mode 590mm/s (116.1rpm) 8.0 hours

Super Mode 610mm/s (120.0rpm) 7.0 hours

Wet Disk Brake

The wet disk brake allows stable braking regardless of ground conditions, such as soft ground and swamp.



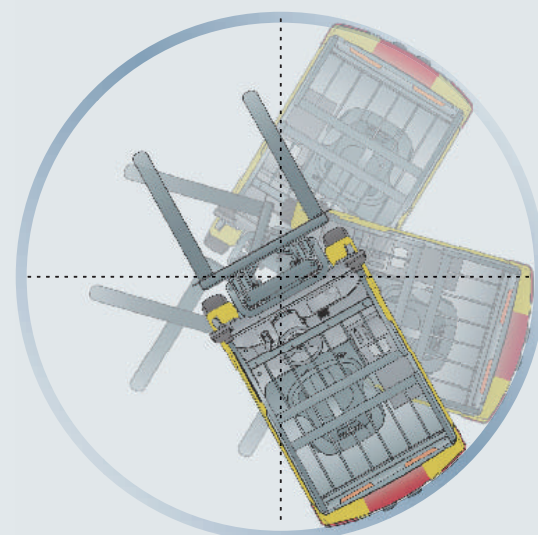
Outside Turning Radius and Minimum Right Angle Stacking Aisle



Outside Turning Radius
1,540mm (60.6 in)

Minimum Right Angle Stacking Aisle
3,225mm (127.0 in)

Pallet size: 1000mm(L)x1200(w)mm (Clearance=200mm) Model: FTB16-7



Easy Access to Operator Compartment

Operator comfort is enhanced with numerous features: Lower floor with wider step, rounded bonnet corners, OHG front pillars for easy access, and ample foot space.



Comfortable Suspension Seat

The suspension seat can hold the operator, and absorb vibration and shocks. Operator weight adjusting mechanism, reclining and sliding mechanisms, and seatback utility pocket are provided.



Small-Diameter Steering Wheel

Steering wheel diameter is small 300 mm for sharp, easy steering. This semicircular design gives easy access to the operator seat.

Full-turn steering:
4.2 rotations of steering wheel (lock to lock)



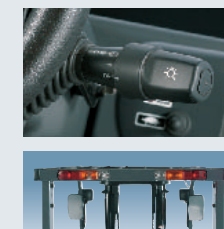
Functionally Arranged Control Levers

Control levers are arranged ergonomically for comfortable operation.



Integrated light switch & turn signal lever

Headlight, rear combination lights, and turn signal switch (with auto return mechanism) are provided for safety operation.



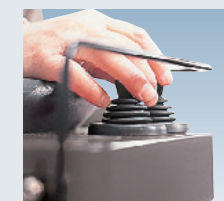
Resin Instrument Panel



The classy resin instrument panel is employed for high durability and water resistance.

Fingertip-Control Levers (Optional)

Fingertip control levers are optionally available for higher productivity. Arm rest is provided for long, continuous operation.





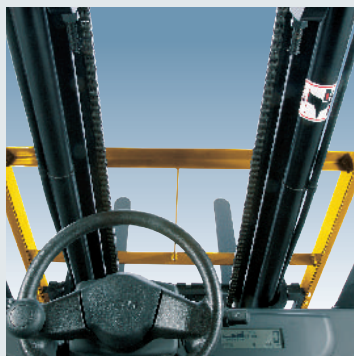
NUMEROUS SAFETY DEVICES



SIMPLIFIED MAINTENANCE

Increased Forward Visibility

The meter panel is located at right of the dashboard to increase forward visibility. The fork tops are always in operator's vision for safety operation.



Auto Knob Return System (Optional)

The knob is automatically returned to its original position for easy steering.



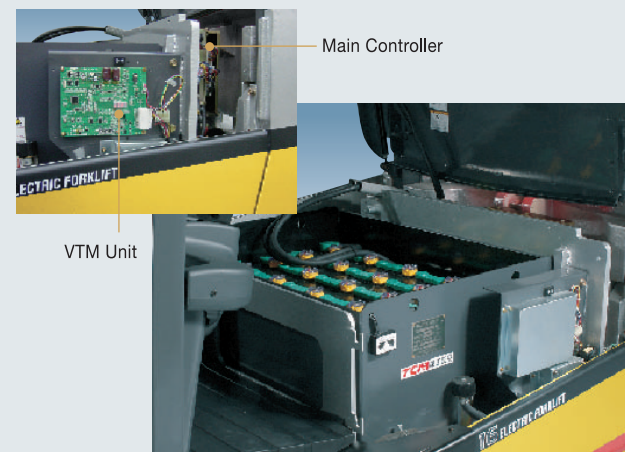
Emergency Battery Shut-off-Switch

This switch is located at right of the operator seat for emergency stopping.



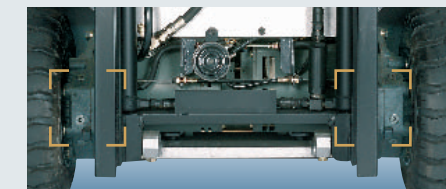
Easy-to-Maintain Controller

Easy access to the controllers by opening the bonnet. In addition, the left and right side covers can be detached for easy maintenance.



Maintenance-Free Wet Disk Brake

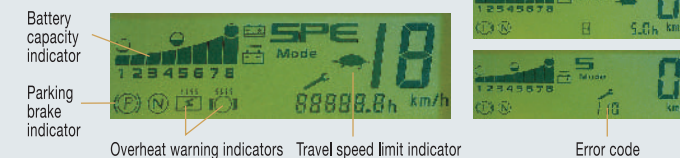
This wet disk brake provides stable braking ability, and extends the life time greatly, reducing maintenance costs.



Self-Diagnostic System

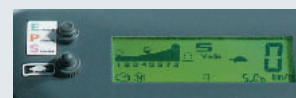
With more than 59 failure codes displayed on the monitor panel, operating status and failure causes can be found easily.

Multiple screen display area



Travel Speed Preset Switch

Appropriate travel speed can be preset to suite job requirements. Contact TCM distributor for adjustments.



Attractive Counterweight Protectors

Attractive protectors are provided on both sides of the counterweight as bumpers.

Anti-Roll Back

With the powerful AC motor, starting on uphill can be made with ease.



Tilt Cylinder Lock

With key switch off, the mast cannot tilt forward when the control lever is shifted.

Neutral Safety Mechanism

Unless the shift lever is set to neutral, the forklift is not ready for operation even when the key switch is turned on.

Safety Interlock System

The traveling and load handling interlock system is a safety device for lift trucks.

Deadman Seat Switch (Optional) ¹⁾

The deadman seat switch automatically detects when the operator leaves from the seat, and stops travel, fork and mast for safety.

Lift Lock (Optional) ¹⁾

With the key switch off, the forks cannot lower even when the control lever is shifted.

¹⁾ STD for Europe/North America trucks

Over-Discharge Prevention System

The liquid crystal display (LCD) blinks to alert the operator to charging when the battery is discharged at 80%. At the time, travel and lifting speeds are also reduced for longer battery life.

FTB-VII SERIES



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TCM



ELECTRIC SIT-DOWN COUNTERBALANCED TRUCKS

TCM PRO-CB

3,000 - 6,000 lbs.

Class 1 - Cushion Tire Type



ELECTRIC SIT-DOWN COUNTERBALANCED TRUCKS
TCM PRO
3,000-6,000 lbs.
Class 1- Cushion Tire Type

The All-New TCM PRO-CB Four Wheel Electric Lift Truck - The New Benchmark in Class 1 Design

The lift truck pioneer since 1949, TCM used over 58 years of experience when designing the new TCM PRO four wheel electric lift trucks. These new trucks are 100% AC powered and are engineered to be rugged and dependable in your daily operations. TCM PRO trucks deliver excellent productivity and high returns on your lift truck investment. For the ultimate in performance, count on **TCM PRO**!

Reliable

All TCM lift trucks have earned their reputation for legendary reliability. In the TCM PRO-CB, brushless AC motors and solid state controllers deliver dependable power with very low maintenance. TCM engineered-and-built drive units and masts are rugged, precise, and give long service life.

Powerful

With 100% AC power, TCM PRO-CB lift trucks have higher travel and lifting speeds as well as superior starting and grade climbing abilities. Main controller setting can be adjusted: speeds and levels of power output.

Productive

TCM PRO-CB lift trucks provided with AC motors and systems that works for regenerative battery power when accelerator pedal is released, braking and switch-back direction changes. The regenerative system performs to add valuable extra operating hours, and assists for longer brake life.

Comfortable and Safety

Operator comfort and safety features include approximately 20% more floor space(4,000 - 6,000 lbs.), a wide view mast designed for maximum visibility, smooth controls for precision operation, a standard adjustable suspension seat with restraint system, an overhead guard designed for easy entry, and a comprehensive integrated interlock system for maximum safety.



3,000 lb.
FCB15-7



4,000 lb. and 5,000 lb.
FCB20-7 FCB25-7 FCB25-7S (STRETCH TYPE)



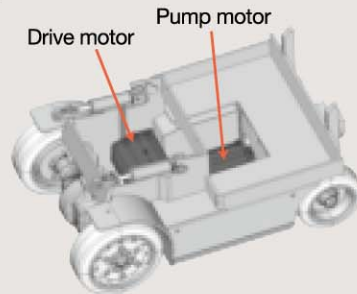
6,000 lb.
FCB30-7

note: 5 models in total 3,000 - 6,000 lbs.

UPGRADED BASIC PERFORMANCE

1 100% AC Power and high productivity

The AC drive motor and AC pump motor work together with the solid state controller to give you outstanding power and performance on the job. These motors are compact, reliable, virtually maintenance-free, and also give superior battery regeneration to extend run times.



2 Faster travel and lifting speeds

Choose between three power modes to suit your specific work application. Choose Super mode for fastest production, Economy mode for longest run time, or Power mode for an optimum blend of speed and operating run time. Modes are displayed on the easy-to-read LCD panel.

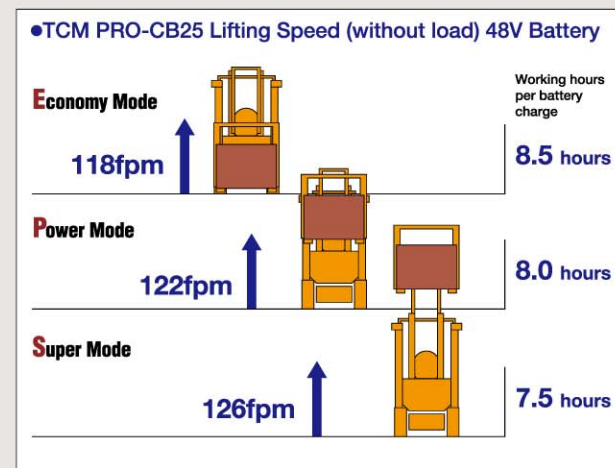
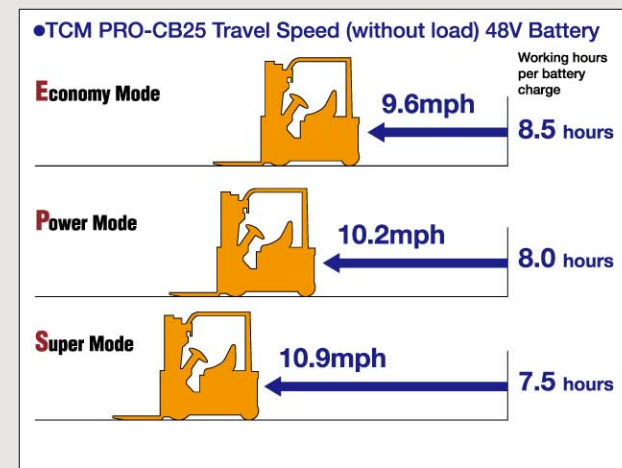
FCB25A4
48V Battery
DC Super Mode

TCM PRO-CB25
48V Battery
AC Super Mode

Travel Speed: without load	9.9mph	▶ 10.9mph
Lifting Speed: without load	122fpm	▶ 126fpm
Gradeability: with load	12.5%	▶ 17%



3 Power mode comparisons for travel and lifting speeds



4 Reduced outside turning radius

TCM PRO-CB lift trucks are compact and designed with a reduced outside turning radius to operate easily in tight aisles.

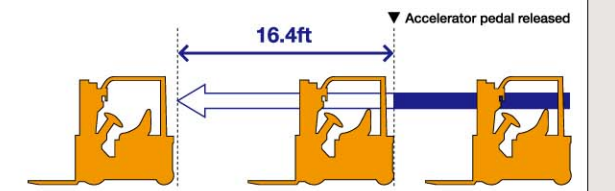
FCB25A4
72.5 in

TCM PRO-CB25
70.5 in

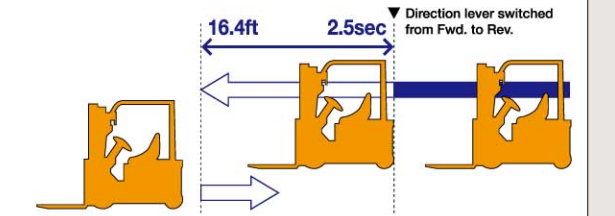


5 Superb maneuverability and productive

●TCM PRO-CB25 upon accelerator release (48V battery)



●TCM PRO-CB25 upon direction reversal (48V battery)



SUPERIOR OPERATING COMFORT AND CONTROL

1 Easy operator access

Operator comfort is enhanced with numerous features: Lower height wider step with grip, rounded bonnet corners, assist-handgrip and redesigned overhead guard front pillars assist for easy access.



2 Increased larger floor space ever designed

The wide-open floor space has been increased approx. 20%(4,000 - 6,000 lbs. models) by new ergonomics design for easy access and all-day operating comfort. The floor with deluxe floor mat, and dash are free from catch points for improved Operator safety.



3 Multifunctional suspension seat with interlock-switch

Features include reinforced operator support, reduced vibration, operator weight balance adjustable, forward and backward reclining, an utility rear pocket and a retractable seat belt. And interlock system(travel/loading) has been provided as a standard equipment.



4 New compact steering wheel

The steering wheel diameter has been reduced to less than 12 inches. This makes vehicle entry and exit easier and delivers quick responsive handling.



5 Adjustable tilt steering column

The steering column tilt is adjustable to bring the steering wheel into an optimum position for a variety of operators. This reduces fatigue and increases operator productivity.

6 Ergonomic controls and instrumentation

The travel direction switch is positioned in easy reach for fast maneuvering. The handbrake has been shrouded to eliminate pinch points. The warning horn button is located on the steering wheel per automotive convention. The turn signal switch is self-cancelling and contains an integrated switch for the headlights, front combination lights, and rear combination lights. The mast control levers are positioned to reduce fatigue and give smooth responses to allow precise fork positioning. The LCD instrument panel is located close to the controls for quick reading, and its readouts are easily visible even in bright daylight.

SUPERIOR SAFETY DEVICES AND DURABILITY

1 Excellent forward visibility

TCM has increased forward visibility on PRO-CB lift trucks by re-located the LCD meter panel at right side of dash board and by lowering the mast cross bar. Also newly installed a smaller steering wheel.



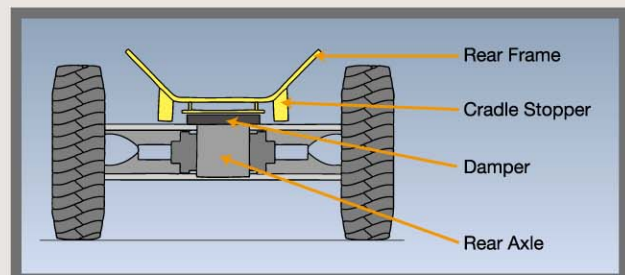
2 High-mounted rear combination lights

Vibration-resistant brake lights, turn signals, and backup lights are easily visible at the top of the overhead guard.



3 Special damper delivers stability and safety (4,000 - 6,000 lbs. models)

In TCM PRO-CB 4,000 to 6,000 pound models, a special damper cushions and stabilizes the steering axle during operation over uneven surfaces. It is simple, depend-able and maintenance-free.



WARNING : This device does not guarantee accident avoidance or prevent vehicle from overturning.

4 Anti-roll back

TCM PRO-CB lift trucks provided with AC motors and systems that works for regenerative braking when released accelerator pedal. The regenerative braking system assists forward moves on inclines.



5 Tilt and lift lock

To prevent unintended mast movements, standard tilt lock prevents the mast from tilting if the operator is not seated, and lift lock prevents the forks from lowering when the key is switched off.

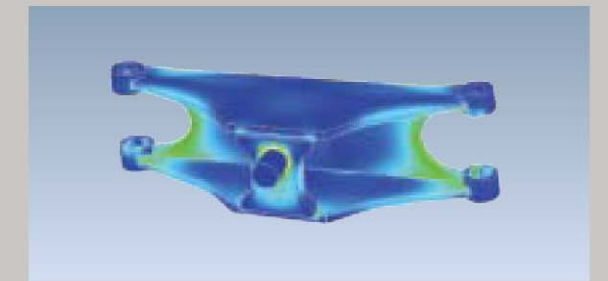
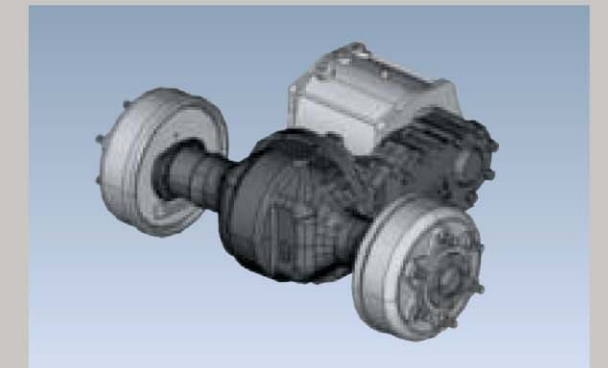
6 Side view mirrors

Side view mirrors are standard equipment.



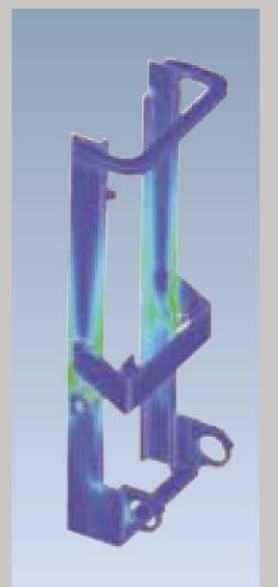
7 Reliable TCM drive units

Designed for quiet operation and maximum durability, the gear efficiency of these units has been increased to 94%.



8 TCM steer axles

This proven TCM design has been strengthened and made more durable for demanding applications. More robust components and construction improves handling and control.



9 TCM masts

These stronger designs have revised cross members and tilt cylinder attachment points to increase rigidity, provide better visibility, and give smooth, dependable operation for safer load handling.

SIMPLE AND EASY MAINTENANCE

1 Easy-open floorboards

Tool-free floorboard removal makes inspection and maintenance tasks quick, easy, and more cost effective.



2 Easy access control boards

The VTM unit and main controller are protected and secure behind heavy-duty covers, yet are easily accessible for adjustments.

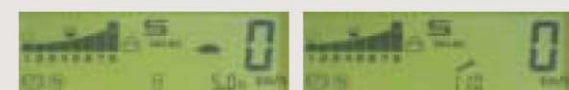


VTM Unit

Main Controller

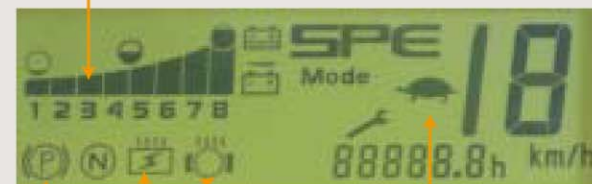
3 On-board self diagnostics

The LCD panel displays all operating systems and more than 40 failure codes for fast troubleshooting. Nearly all checks can be made without using separate meters.



Failure code

Battery capacity indicator



Parking brake indicator

Overheat warning indicator

Travel speed limit indicator

4 AC power reduces maintenance cost

AC motors have no brushes to replace, and there are no directional contact tips to replace. The solid-state MOS-FET invertertype controller delivers reliable operation.



5 Over-discharge prevention system

When the battery is 80% discharged, the LCD panel blinks to alert the operator to charge it or change to a fresh battery. In addition, the travel and lifting speeds are automatically restricted to extend the remaining charge. This also extends battery service life by preventing total discharge.



OPTIONAL EQUIPMENT

1 Fingertip control with armrest

Fingertip controls with superb designed armrest reduce operator fatigue in high cycle operations.



2 Synchronized steering mechanism

This mechanism performs to synchronize the position of steering-knob and the angle of rear wheels. The steering-knob is returned to the original position when a lift truck is traveling on a straight way.

3 Auto power-off system

Saving the battery energy this system shuts off the main power automatically when the lift truck is not operated for 15 minutes even with the key is switched on.

4 Battery roll-out

Battery rollers make change-outs easy and fast multi-shift operations. The power connection plug is located outside the battery box for convenient charging if the battery is not removed.