



GRENDA

MITSUBISHI FORKLIFT TRUCKS

1 ~ 3.5A ton



New Logistics Standard



GRENDIA FGE20CNT

Capacity: 2000kg at 500mm Load Center
Overall length with 920mm forks = 3280mm



GRENDIA FD25NT

Capacity: 2500kg at 500mm Load Center
Overall length with 1070mm forks = 3625mm

What is the ideal forklift truck for drivers to operate?

How should forklifts respond to the ever increasing demands of development of information and distribution systems?

Mitsubishi's new generation "GRENDIA" model is the answer to these questions.

The moment you drive it you will experience the excellent operator comfort and unmatched productivity.

Mitsubishi forklift trucks have a worldwide reputation to be friendly to the environment.

Equipped with a variety of advanced safety features, a new standard in materials handling is set.

High Performance

Drive, turn, accelerate, lift and move. Excellent maneuverability. Power is at hand for performing in even the most severe conditions.



Lift

The low center of gravity of the new frame ensures safe load handling and excellent residual capacities. Moreover, with or without load, the electronic controlled gasoline engine provides stable lifting speeds.

Lift speed:
680mm/sec (with load)
690mm/sec (without load)
(FGE252N electronic controlled gasoline engine type)



***Top-class lifting performance.**
All 2-stage masts lifting height up to 4m without loss of capacity.

Drive

The newly developed engine and transmission present top-class driving performance. The maneuverability, one of the most important features of a forklift, is now more precise than ever before.

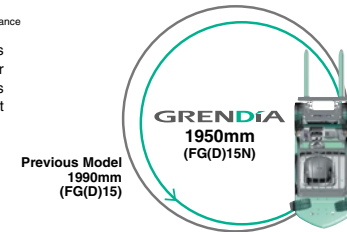
10m Acceleration:
3.1 seconds
(FD25NT without load)

12° Gradeability:
5.0km/h
(FD25NT without load)



Turn

Full hydraulic power steering allows turning "on-the-spot". With full power available at all times this system realizes top-class turning ability, even in the most confined areas.



Minimum turning radius:
FG(D)15N 1950mm
FG(D)20CN 2020mm
FG(D)25N 2230mm

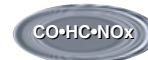
Friendly To The Environment

Friendly for the operator, friendly for the environment.

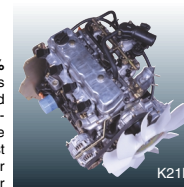
EXHAUST EMISSION CONTROL

Electronic Controlled Gasoline Engine with 3-stage Catalytic Muffler.

K15E, K21E, K25E



Reduced by more than 90% compared with previous model. The electronic controlled engine is equipped with a 3-stage catalytic muffler. The result is not just lower exhaust emissions but also higher torque, more power and lower fuel consumption levels as never realized before.



Displacement: 2065cc
Rated Output: 42kW(57ps)/2700rpm
Maximum Torque: 160Nm(16.3kgm)/2000rpm

Swirl-Chamber Diesel Engine.

S4Q2, S4S



Reduced by 50% compared with previous model. Major targets during the development of this new model were to limit the pollution caused by exhaust emissions and to reduce the noise levels of the engines. Mitsubishi has succeeded in reaching these targets for the entire range.



Displacement: 3331cc
Rated Output: 44kW(60ps)/2300rpm
Maximum Torque: 183Nm(18.7kgm)/1800rpm

Passed Euro Class II Regulation of Exhaust Emission Value (Worldwide)

The S4Q2 and S4S diesel engines do not only comply with the European Class II regulation of exhaust emission values of the Comité Européen de Normalisation (CEN), which is by far the strictest, but also the U.S.A. Tier-2 regulation of exhaust emission value of Environmental Protection Agency (EPA).

Comfortable Operation

A comfortable ride similar to today's passenger cars.
Automotive type features integrated in the dashboard.
Comfortable compartment for the operator to work in.



Entire Power Line Full Floating Realizing Low Vibration Levels

The principle of a full floating power train is proven technology in the automotive industry. Mitsubishi was among the first to introduce this technology on forklift trucks and has fine-tuned the system on this new model. The results are even lower vibration levels, like in your car, providing a comfortable working position for the driver.

Low Noise Levels

The noise that is coming directly from the exclusively developed engine and transmission is reduced tremendously. Improving the airflow to the engine and the careful choice of sound absorbing materials inside the engine compartment has further reduced noise levels. The reduction of noise both inside the compartment as well as the noise emitted to the surrounding ensures a quieter working environment.

Noise Level At Operator's Ear

77.5dB

(FD25NT with Sound Suppression Kit option)



Quality foam inside the engine cover as noise absorber.

Excellent Forward Visibility

A wide and unobstructed forward view is the trademark of Mitsubishi. The rigid structure of the mast and smart layout of the cylinders improve fast and safe working. Because of the low dash the visibility at the fork tip is excellent.



Rear Visibility

The new design of the counterweight with the strong wedge shape provides a clear full view of the rear while driving backwards.



Full Suspension Seat With Hip Restraint

The new machine is equipped with a new type of seat providing improved seating stability, more comfort while driving and easier on and off access. With the backrest reclining function, the weight-adjust system and its capability to slide forth and back, every operator can find a comfortable position.

- 20° backrest recline adjustment in 11 steps.
- Weight adjustment by turn knob
- 150mm horizontal slide travel adjustment.
- Full suspension
- Document pouch
- Seatbelt with warning indicator



Wide And Open Floor Area

As the height, angle and operating force of the pedals are improved Mitsubishi has accomplished easy operation for all drivers. As the steering valve is integrated in the steering column, the steering rod in the floor area is eliminated. The tilt cylinders have also been appropriately arranged, allowing wider floor space while maintaining rigidity.

Open Step

The wide and open step with non-slip plate provides easy on and off access. This is the design Mitsubishi focused on.



Soft Landing

When the forks are lowered and approach ground level, the lowering speed is slowed down automatically. The load is protected from the shock of hitting the ground.
(2-stage masts only)



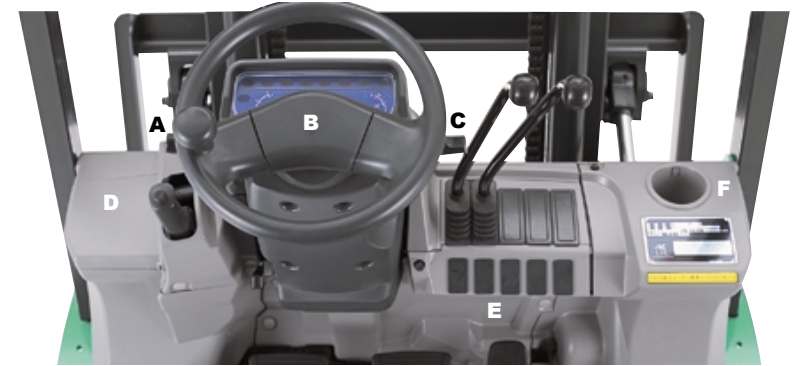
ALS* option (Mast Vertical System)

When the operator tilts the mast forward without load and simultaneously pushes the ALS button, the mast stops in the vertical position, consequently placing the forks horizontally.
*Automatic Leveling System



Easy Operation

New and excellent driver's compartment provides an unobstructed view in all directions. The ease in operation substantially improves efficiency.



A
Electric FNR Lever
(Automatic Transmission Models)

The FNR lever is easily controlled with a fingertip. It is conveniently placed and needs no extra effort in reaching.



B
Power Steering With 100% Standstill Steering

Full hydraulic power steering with 100% standstill steering reduces the steering force substantially. With steering synchronizer, the steering angle of the rear tires always corresponds with the position of the steer knob on the steering wheel, leading to safer and more comfortable steering. **Steering operating force: Reduced by 20% (compared with the previous model)**



C
Combination Lever

Automotive type lever integrates control of the lights and the automatic return indicator. It is conveniently placed.



D
Parking Brake Lever

The double action-type parking brake lever, like in passenger cars, is released by keeping the top button pressed. Mitsubishi's safety system activates an alarm buzzer if the park brake lever is released while the engine is off.



E
Tilttable Steering Column

The steering column can be fixed in every possible position within the tilt range. Tilt position memory system, which remembers operator's preferred tilt, is equipped.



F
Multi-synchro Transmission
(Manual Transmission Models)

Thanks to the incorporation of a multi-synchro transmission, the operating force to shift the transmission has been reduced, making shifting a lot easier.



G
Switch Panel

On the right side of the dash, space is reserved for switches of optional functions.



H
Cup Holder

An automotive type cup holder is integrated in the dash area.



I
Transparent Roof

Removable roof with rain gutter is available as an option.

Active Safety

Mitsubishi's new forklift features a safety system that actively reduces the risk of accidents.

Instrument Panel

A large display is centrally located, behind the steering wheel within line of sight of the operator. The combination of the new LCD monitor, gauges and alarm lights provides all information necessary for the operator and service engineer. If a breakdown occurs, the self-diagnostic system shows an error code on the LCD display identifying the cause. The new LAN:CAN-bus system has created a leading-edge IT feature.



Park Brake Indicator

When the park brake lever is applied, a park brake indicator on the display lights up. If the park brake is released and the engine is not running, an alarm buzzer goes off.



Seatbelt Warning Indicator

A warning lamp on the display lights up when the seat-belt is not used while seated, just like in passenger cars.



Multi-purpose Indicator

When there is a minor accident, the multi purpose indicator lights up. Mitsubishi's new model is equipped with a monitoring system utilizing the in-vehicle LAN functionality.

Mast and Traveling Interlock System

Mitsubishi seats are equipped with a unique interlock switch. When the operator leaves the seat, this seat-switch is activated and the operation of the mast and shifting transmission of the vehicle (automatic transmission type) will be locked. This is the safety system of the next generation of forklifts and gained from Mitsubishi's experience in the forklift industry over the past 10 years.



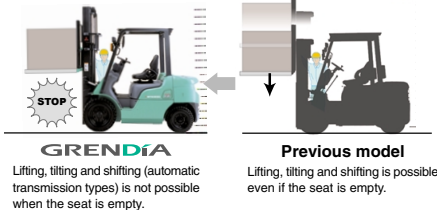
Neutral Indicator

The neutral indicator lights up if the shift lever is set to neutral when the operator is seated. If the seat is empty, the neutral indicator blinks to warn that the forward/reverse function is interlocked. (Auto transmission models only)



Mast Interlock Indicator

The mast interlock indicator lights up when the seat is empty to indicate that the mast cannot be activated.



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Lifting, tilting and shifting (automatic transmission types) is not possible when the seat is empty.

Previous model
Lifting, tilting and shifting is possible even if the seat is empty.

Neutral Safety Start System

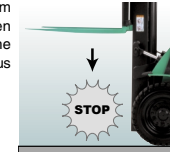
The FNR lever has to be in Neutral position before the engine can be started. This prevents the unexpected "jack-rabbit" start.

Drum Brakes Bring Reliable Braking Power

Along with the improvement of the engine performance, the brake performance is improved. The braking response is drastically improved by increasing the rigidity and capacity of the brake drum and brake shoe. A stable brake performance is realized at any situation.

Lift Lock System

Mitsubishi's new Lift Lock System prevents the mast from lowering when the lift lever is operated and the engine is off. This prevents potentially dangerous situations.



High Mounted Rear Combination Lamp

The rear combination lamp is mounted on the upper rear cross bar of the head guard for improved visibility by surrounding workers or other operators.



Automatic Response To Engine Breakdown

(Electronic Controlled Gasoline engine)

The engine revolutions are automatically controlled when the engine coolant temperature is getting too hot or the battery voltage becomes low. This is possible due to the combination of in-vehicle LAN:CAN-bus and the electronic controlled gasoline engine.

Rigid Frame With Low Center Of Gravity

The completely new designed frame withstands the most severe and harsh conditions.



Easy Maintenance

Durable components to increase reliability and service intervals. All items that require daily inspection are located within easy reach.



Removable Side Cover

The removable side cover and wide opening range of the engine cover provides unobstructed access to the engine compartment.



Easy Replacement Of Air Filters

Convenient arrangement of the air cleaner allows easy replacement of its filter.



Efficient Layout

The fuse box, relays and battery are clustered in one location. This layout provides easier inspection and maintenance.

Options

MAST VARIATIONS

Various masts with wide variations are available .
 Select the type appropriate for your working place and operation.
 • 2-stage mast • 2-stage full-free mast • 3-stage full-free mast

■ The “Green” Truck, Caring For The Environment

LPG Engine

Forklifts with LPG engines are friendly to the environment and LPG models benefit from the low fuel costs.

Black Smoke Reducing DPF System

The built-in ceramic filter in the muffler of the diesel models collects all black smoke. The collected soot is burnt by a built-in heater in the muffler and the filter is recovered.



The recovering unit is located within the right step.



The monitor of the DPF muffler indicates the clogging situation of the filter and recovering time.



● LPG Tank Swing Bracket

This tank bracket facilitates replacement of LPG tanks.

- This means no lifting of the bottle over the counterweight.
- Replacing the gas bottle can be done within the vehicle width. The operator in narrow aisles is thus possible.



Panel Cabin

A panel cabin can be mounted on the standard overhead guard.

Sound Suppression Kit

To have even lower noise levels, a belly plate with sound absorption material, an additional intake silencer and an insulated radiator cover can be ordered as a kit.

ATTACHMENT

For faster and more efficient operations, various attachments are available.



- Side shifter
- Hinged fork
- Fork positioner
- Rotating fork



- Rotating roll clamp
- Load stabilizer
- Bale clamp
- Others: Attachments meeting your specific requirements are available. Please feel free to contact your local dealer.

Equipments At-A-Glance

	Electronic Controlled Gasoline Engine		Gasoline Engine		Diesel Engine	
	Torque Converter	Direct Drive	Torque Converter	Direct Drive	Torque Converter	Direct Drive
Operator's Compartment	Steering with tilt position memory system	○	○	○	○	○
	Full hydraulic steering with Steering Synchronizer	○	○	○	○	○
	Combination switch with auto return indicator	○	○	○	○	○
	Electric automatic FNR shift lever	○	—	○	—	○
	Neutral safety start system	○	○	○	○	○
	Suspension seat with hip restraint feature	○	○	○	○	○
	Mast and traveling interlock system	○	○*1	○	○*1	○*1
	Cup holder	○	○	○	○	○
	Double action parking brake	○	○	○	○	○
	Anti-restart lock	○	○	○	○	○
	Open step	○	○	○	○	○
	Inching pedal	○	—	○	—	○
	Floor mat	○	○	○	○	○
	Speed meter	OP	OP	OP	OP	OP
Foot heater	OP	OP	OP	OP	OP	
Instrument Panel	Water temperature	○	○	○	○	○
	Fuel meter	○	○	○	○	○
	LCD hour meter	○	○	○	○	○
	Brake liquid warning lamp	OP	OP	OP	OP	OP
	Engine oil pressure warning lamp	○	○	○	○	○
	Charge lamp	○	○	○	○	○
	Diesel vehicle glow pilot lamp	—	—	—	—	○
	Diesel vehicle fuel filter drain warning lamp	—	—	—	—	○
	Seatbelt indicator	○	○	○	○	○
	Neutral indicator	○	—	○	—	○
	Parking indicator	○	○	○	○	○
	Mast interlock indicator	○	○	○	○	○
	Error code indicate at the breakdown	○	○	○	○	○
	Air cleaner dust indicator lamp + Radiator coolant level warning lamp	OP	OP	OP	OP	OP
Torque converter oil temperature warning lamp	OP	OP	OP	OP	OP	
Exterior	Rear-view mirror	○	○	○	○	○
	Back-up buzzer	○	○	○	○	○
	Halogen front headlight	○	○	○	○	○
	Front indicator light	○	○	○	○	○
	High mounted rear combination lamp	○	○	○	○	○
	Assist grip	○	○	○	○	○
	Engine cover with sound insulator	○	○	○	○	○
	Engine side cover with sound insulator	○	○	○	○	○
	Transparent roof	OP	OP	OP	OP	OP
	Revolving Lamp	OP	OP	OP	OP	OP
	Front Working Lamp	OP	OP	OP	OP	OP
	Rear Working Lamp	OP	OP	OP	OP	OP
	Sound Suppression Kit	OP	OP	OP	OP	OP
	Front glass	OP	OP	OP	OP	OP
Panel cabin	OP	OP	OP	OP	OP	
Mast	Soft landing lift cylinder (2SP)	○	○	○	○	○
	Lift lock	○	○	○	○	○
	ALS (Automatic Leveling System)	OP	OP	OP	OP	OP
	Auto choke (gasoline models)	—	—	○	○	—
Engine/Motors	Multi-synchro transmission (Direct Drive models)	—	○	—	○	—
	Cyclone air cleaner	○	○	○	○	○
	Elevated air intake	○	○	○	○	○
	Three-stages catalytic muffler	○	○	—	—	—
	Black smoke eliminating equipment DPF	—	—	—	—	OP*2
	Engine full floating	○	○	○	○	○
	Aluminum radiator	○	○	○	○	○
	Anti-clogging radiator (R/CSO)	OP	OP	OP	OP	OP
	Radiator dust-proof net	OP	OP	OP	OP	OP
	Cyclone muffler	OP	OP	OP	OP	OP
Speed limiter	OP	OP	—	—	OP*3	

○: Standard equipment OP : Optional equipment : Pending equipment

*1: The traveling interlock system is not equipped on the direct drive (manual transmission) vehicle.

*2: This is not available for 1.0 ton models.

*3: This is only for electronic controlled vehicles.