

MITSUBISHI FORKLIFTS SAFETY FEATURES

1.8 TO 3.5T & 4 TO 5.5T ENGINE COUNTERBALANCE FORKLIFTS



Brand: Mitsubishi

Model Name: FG(E)(D)18 - 35N, FG(D)40N-FG(D)55N Series

Model: Engine Forklifts

Capacity: 1.8 - 3.5, 4T - 5.5T

Fuel Type: LPG, Dual Fuel and Diesel



GRENDIA

Developed to help your operator achieve maximum productivity, GRENDIA sets the highest of standards for IC engine counterbalance forklifts. No other forklift includes so many advanced features in its standard specification. That's why GRENDIA is such unbeatable value for money. What's more, its durable components, low-maintenance design and fuel economy will continue to keep down the cost of forklift ownership, year after year.

The name GRENDIA means 'Green Diamond': green for environmental protection; diamond for high quality, reliability and sound investments. Fast, stable and exceptionally powerful, GRENDIA forklifts offer a potent combination of high efficiency, low emissions and very low noise levels. To that, Mitsubishi has added a host of ergonomic features to maximise comfort, control and precision. The result is a forklift that can be relied upon to deliver top performance, whatever the application, whatever the conditions.

EASY OPERATION. DRIVER COMFORT

1. **Suspension seat** with hip support mechanism. Ability to adjust position and extent of reclining according to body shape for maximum comfort. Seat belt fitted with warning light. Soft- grip handle makes getting in and out easier.
2. **Electric shift lever** can be moved back and forth at the touch of a finger. (for torque- converter models only)
3. **Acrylic roof** (optional) for comfortable operation in outdoor conditions. Easily installed and uninstalled.
4. **Tiltable steering column.**
5. **Fully hydraulic power steering.** Fitted with steering synchronizer, a mechanism that automatically matches the rear wheel angle to the steering angle.
6. **Inching pedal** allows delicate movements.
7. **Switches** for optional functions positioned on the right side of the dashboard.
8. **Combination switch** integrating indicators and headlight switches.
9. **Power- train full floating structure** for excellent vibration reduction. The entire power- train is supported by vibration absorbent rubber mounts.

GRENDIA'S ECO- POWER MEETS ENVIRONMENTAL REQUIREMENTS OF TODAY AND TOMORROW

EMISSION STANDARDS COMPLIANT*: HIGH RELIABILITY DIESEL ENGINE



The well-known performance levels of the highly acclaimed Mitsubishi Diesel Engine have been maintained but now come with eco- friendly refinements. The upgraded engines have now achieved low emission levels in compliance without compromising horsepower or reliability.

LOW-NOISE DESIGN FOR MAXIMUM COMFORT WITH MINIMAL OPERATOR FATIGUE

With features such as low-noise engine, enhanced soundproofing of the engine compartment and floor level noise dampening, Mitsubishi Forklift Trucks has achieved a quiet working environment both for the operator and the surrounding working environment.

** ISO- equivalent noise level (When diesel engine is in SOFT mode at high idle speed)*

ECO- FRIENDLY VEHICLES WITH CLEAN EXHAUST EMISSIONS

Besides the gasoline- powered and diesel- powered models, the Grendia is also available in other clean exhaust, energy-efficient models. These include LPG-powered or diesel forklifts fitted with DPF (Diesel Particulate Filter) that helps eliminate possible black smoke.

- Vehicle fitted with DPF helps eliminate black smoke.
- The ceramic filter recovery unit is fitted inside the right-side step of the machine.
- DPF exhaust monitor. Displays filter levels and necessary recovery time.

"SAFETY FIRST"- YET ANOTHER GRENDIA HALLMARK

INTEGRATED PRESENCE SYSTEM- "IPS"



Grendia is fitted with Mitsubishi's IPS, an integrated active safety system designed to improve vehicle safety by actively detecting problems before they become accidents. It not only ensures safety during vehicle operation but also prevents errors when the operator is not seated, protecting both the operator and the workplace from potential accidents.

MAST & TRAVEL INTERLOCK

Mitsubishi Grendia forklifts are equipped with mast and travel interlock protection device that is linked to the operator's seat. If the operator is not seated, the mast and (for torque- converter models) the movement of the vehicle itself, is automatically locked in order to prevent injury or damage to property. * Note that brakes are not applied in travel interlocking, so forklifts can still move on slopes due to gravity.

LIFT LOCK

The fork on the Mitsubishi Grendia is automatically locked when the ignition is switched off, so it remains in position even if the lift lever is accidentally bumped or moved.

TWO-LEVEL HIGH/ LOW SPEED LIMITER

The Grendia's automatic speed limiter can be set to two levels- outdoors (HIGH) and indoors (LOW). Drivers can alternate between the two speed limits at the flick of a switch, helping them to choose the most appropriate fuel efficiency for the location.

POWER/ SOFT MODE SWITCH

Depending on the task, two power levels can be selected: POWER mode, which maximises power output and SOFT mode for fuel efficiency and low noise levels. Selecting SOFT mode cuts CO₂ emissions by approximately 13% compared to the POWER mode.

INNOVATIVE AND RELIABLE SAFETY FEATURES HELP PROTECT OPERATORS AND WORKPLACE

NEUTRAL SAFETY

A Neutral Safety device, which prevents the engine from starting unless the forward/ backward lever is positioned at neutral, is now built in on all vehicles, including all torque- converter- fitted vehicles and all direct drive vehicles.

HIGH- MOUNTED REAR COMBINATION LAMP

All Mitsubishi Grendia's are installed with rear combination lamps above the head guard that clearly signals braking or stopping to vehicles or persons behind the forklift.

WIDE FORWARD VISIBILITY/CLEAR REAR VISIBILITY

Unlike some forklifts, Mitsubishi Grendia's have wide unobstructed visibility that extends from the tip of the fork to the top of the mast. Greater rear visibility is made possible by the Grendia's compact tail design.

POWERFUL, SMOOTH AND COMPACT. EXCELLENT PERFORMANCE FOR SPEEDY WORK.

POWERFUL LIFTING CAPACITY

Mitsubishi Grendias are constructed with a low centre of gravity frame that optimises vehicle balance and stability during lifting. That means a greater load capacity with much greater stability. The high-torque, high- power engine maintains a stable lift speed regardless of the load, helping operators to increase productivity.

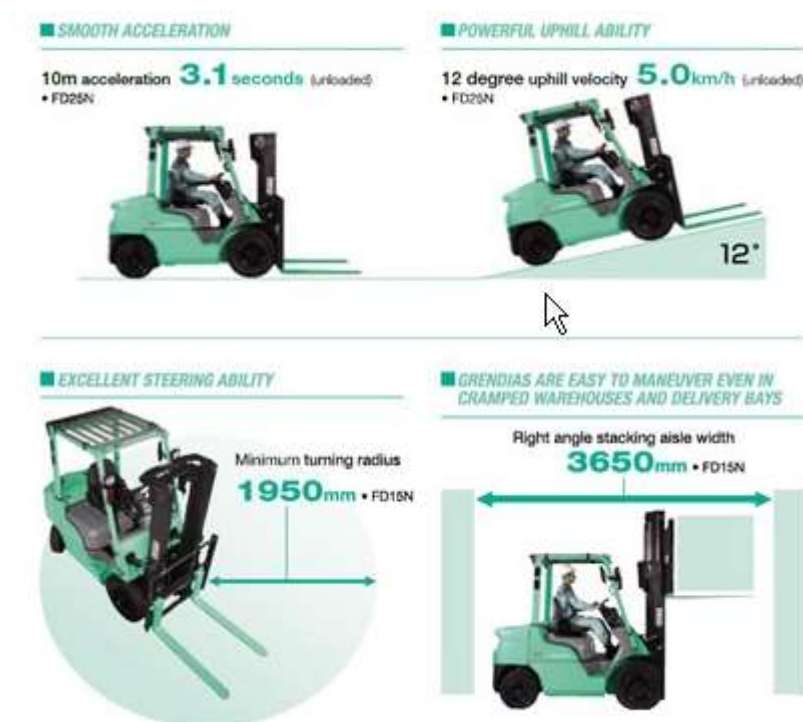
Soft landings: Another exclusive feature found on the Mitsubishi Grendia is soft landing system that activates when the fork nears the ground, automatically protecting loads from hard drops or shocks.

COMPACT TURNING

Tight turns are easy with the Grendia thanks to a fully hydraulic power steering fitted with steering synchronizer/ mechanism for 100% stationary steering. Its manoeuvrability allows for easy U-turns and navigation in small workspaces.

SMOOTH RUNNING

The high power engine and the high performance transmission are perfectly matched to produce an extremely smooth start/ acceleration as well as excellent traction even on uphill slopes. Excellent braking and stopping control is provided by a robust and reliable duoservo system.



EXHAUST EMISSIONS

The Diesel engines comply with the “2008 Japanese Emission Standard for specific special vehicles”, and also achieved the emission regulation of Europe (EU Stage IIIA) and USA (EPA Tier 3) standard.

The LPG engines comply with the “2008 Japanese Emission Standard for specific special vehicles”, and also achieved the emission regulation of USA (EPA Tier 2) standard.

STEERING

The provision of full hydraulic power steering with 100% standstill steering has substantially reduced the required steering force by 20% compared with the previous model.



A steering synchroniser ensures that the steering angle of the rear tyres always corresponds with the position of the steer knob on the steering wheel, leading to safer and more comfortable steering for the operator. The steering column can be adjusted to suit individual operators preferred position and has a memory function.

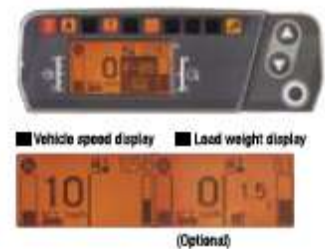
MAST VISIBILITY

The rigid structure of the mast and smart layout of the cylinders has resulted in a wide and unobstructed forward view. The visibility of the fork tips is excellent due to low positioning of the dashboard. The newly designed counterweight with a strong wedge shape provides a clear view of the rear while driving backwards.



INTEGRATED DIGITAL MONITORS

The instrument panel is a large display centrally located behind the steering wheel within easy sight of the operator. This new combination of Digital LCD monitor, and alarm lights provides all the information necessary for both the operator and the service engineer. If a breakdown occurs, the self-diagnostic system displays the error code on the LCD display identifying the cause.



NEUTRAL INDICATOR

The neutral indicator lights up if the shift lever is set to neutral when the operator is seated. If the operator seat is empty the neutral indicator blinks to warn that the forward/reverse function is interlocked.

SEATBELT WARNING INDICATOR & SEQUENTIAL START PROCEDURE

A sequence must be followed to ensure operators have safely secured their seatbelt before the machine is able to be driven. Mitsubishi has a unique system which allows for the operator to start the machine and operate the hydraulics, however, can't drive without the seatbelt. This Unique system also allows for the operator to leave the unit running if he/she is required to hop off of the forklift for a short period of time. Simply re-sit on the unit and connect the seatbelt for full operation. A warning light on the display panel is activated if the seatbelt is not connected and sequence has not been followed while the seat is occupied.

ADBRI STANDARD MITSUBISHI SAFETY FEATURES

Minimum Safety requirements		Mitsubishi Inclusions
1	Sequential interlock seat belt	Y
2	Seat to include lateral support	Y
3	External wing mirror	Y
4	Additional - 180-degree rear vision internal panoramic rear view mirror	Y
5	Revolving strobe light mounted overhead	Y
6	Audible reversing buzzer	Y
7	Reverse proximity alarm	Y
8	Reversing camera	Y
9	Load indicator and warning or shutdown if overload	Load Indicator included
10	Proximity alert system/impact detection/impact shutdown	Y
11	Speed governing set @ 8.0kmh . Electronically controlled	Y
13	Speed governing when cornering.	Y
14	fire extinguisher 1.0kg (as minimum larger size if required)	Y
15	Lockable emergency isolation cut off switch	Y
16	Onboard management system (OBS)	Y (fleetcontrol)
17	OBS to include electronic keyless start (fob/swipe card) linked to operator	Y (fleetcontrol)
18	OBS to include electronic prestart linked to keyless start	Y (fleetcontrol)
19	Clear visibility through mast & fork carriage	Y
20	Cabs ROPS & FOPS protected	FOPS protected; no standard forklift provides ROPS. This can be engineered aftermarket.