# GRENDÍA

# **IC Engine counterbalance trucks**

1.5 - 5.5 tonnes





# quality, reliability...

#### our customers know what they want

Asked what they like best about Mitsubishi forklift trucks, our customers come up with the word 'reliability' time after time. The legendary reputation of our products for unbeatable reliability has been built upon the high standards set – and then raised again - by successive generations of our IC engine counterbalance trucks.

Whatever your application and however demanding the conditions, if you need a truck that will never let you down, you need look no further than GRENDIA: our latest 1.5 to 5.5 tonne diesel and LPG models. As you will see, their quality is better than ever... and each combines a feature-packed specification and impressive performance with true value for money.



The green colour of our trucks is a sign of our commitment to protecting the environment. The diamond shapes in our logo are a reminder that – like a diamond – a Mitsubishi forklift truck guarantees quality, reliability and a sound investment.

#### feature focus

## driving down your operating costs

When designing these trucks, one of our key aims was to lower your bills for fuel, parts, servicing and repairs. Another key aim, closely related to the first, was to maximise your profits by building trucks that spend their time in productive action – not in the service bay.





#### outstanding economy

The quality and durability of components used in Mitsubishi trucks, together with the low-maintenance design of their systems, means longer intervals between services and less to pay for replacements and repairs. Meanwhile, use of the latest engine technology ensures maximum efficiency – for high performance with low fuel consumption.



# rapid service access

Every truck made by Mitsubishi has been designed with RapidAccess features to allow quick and easy access for servicing and daily checks. Components that require regular inspection, such as the battery and various fluid reservoirs, are accessed in seconds via tilting or swing-open covers. Where necessary, removable panels are installed to reach other parts – again offering generous access. Whether you own the truck or lease it, these labour-saving features reduce the cost of maintenance and maximise uptime.

# ...and genuine value for money

#### maximising your profits

You want value for money? Well take a look at the overall costs. Choose a Mitsubishi forklift truck and you will gain not just a competitively priced truck but a whole package of benefits that will keep on saving you money - day after day... year after year.

Our famously reliable trucks are built to keep on working - to maintain the productivity of your business and minimise downtime. We use high-quality components, for greater durability, and we design systems that reduce wear. We also build in easy serviceability. The result: minimal loss of productivity and minimal spending on replacement parts and servicing.

What's more, these high-quality trucks maintain their reliability, economy and value over a long lifetime. That's why we have the confidence to offer such excellent warranties, giving complete peace of mind – not only to you but to any subsequent owners.

The tremendous back-up available through our network of friendly local dealers is another essential part of the Mitsubishi package. These dealers have been hand-picked for their facilities, knowledge and commitment to customer care – and each is in turn backed by the huge resources of the global Mitsubishi organisation. So you can be sure of expert maintenance, rapid parts supply and the highest standards of service.





# Mitsubishi gives you more

One reason why Mitsubishi products are such excellent value for money is that every model offers high quality and high specifications as standard – including many features that other manufacturers might present to you as optional extras. Better still, our designers

never cease in their mission to make these trucks even more advanced and feature-packed, more productive and profitable for your business, more economical for you to run and maintain... and more efficient and enjoyable for your drivers to operate.

#### **supreme** ergonomics



The designers at Mitsubishi understand that high productivity depends on the combination of high-quality engineering and a comfortable, confident operator who is totally in control. Our *ErgoCentric* truck design puts the operator's needs at the heart of all product development.

Operator compartments are ergonomically designed, with easy on-off access, comfortable seats and user-friendly controls. Clear all-round visibility and smooth performance allow the driver to handle the truck and its loads precisely and safely, while low levels of noise and vibration help to prevent stress and fatigue.

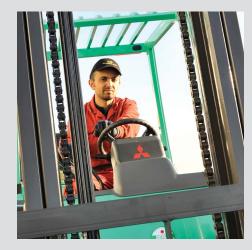
#### quality components



Our designers have total confidence in every component they specify. Hardly surprising as almost all our components have been developed, manufactured and rigorously tested here at Mitsubishi.

Entire powertrains, as well as the sophisticated electronics that control them, are produced in-house by Mitsubishi – to ensure perfect compatibility and balance. We call our careful specification process 'InTech component matching'.

#### **unbeatable** views



Mitsubishi is well known for the unique design of its clear-view masts, which provide exceptional forward vision. Similar attention is paid to ensuring visibility through the roof, front, back and sides of the overhead quard.

Even the general shape of the trucks is deliberately designed to maximise the allround view, which improves awareness of potential hazards in the surrounding area and allows safe manoeuvring.

#### **floating** powertrain



With their advanced, fully floating powertrain, these trucks deliver excellent ramp performance, travel speed and allround productivity – while minimising transmission of vibration to the operator and extending component life.

Operators will welcome the guiet performance of the engines and the fact that all movements of the mast and fork assembly are carried out smoothly and with the minimum of noise.

#### **inbuilt** safety



Safety is built into every part of our trucks' design. Major safeguards incorporated into the structure include the low centre of gravity (for high stability), the strength of the frame and mast construction and the all-round visibility afforded by the mast and overhead guard design.

Onboard safety systems include a parking brake alarm, a seat belt warning light and a hydraulic and travel interlock system. If the driver is not seated, the interlock stops the truck moving and prevents both lifting and lowering of the forks.

#### **advanced** electronics



'Intelligent' electronic systems control the major functions of each truck, maintaining optimum performance. If the owner wishes, the inbuilt operator identification system can be used to recognise each driver and prevent unauthorised use.

Using the truck's laptop connector, service engineers can carry out complex diagnostic procedures quickly and easily - ensuring fast servicing and simple identification of any problems.

#### now you can have it all...



...for high stability

Low noise and vibration



...for driver comfort

**Integrated Presence** System



...for increased safety

Low emissions



...for a healthy environment



...for high productivity

Rapid service access



...for fast checks and maintenance

Fast travel and acceleration



...for rapid shuttling

**Small turning circle** 



...for tight manoeuvring

Long service interval



...for minimal downtime

**High efficiency** 



...for low fuel consumption







# GRENDÍA ES

# diesel and LPG counterbalance 4 wheel pneumatic tyres



# **Outstanding performance... exceptional value for money**



fully hydrostatic steering



Stylish, robust design



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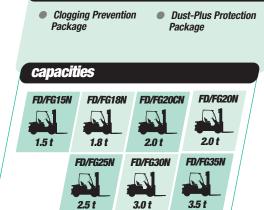


Easy seat adjustment

Developed to help your operator achieve maximum productivity, GRENDIA sets the highest of standards for IC engine counterbalance forklift trucks. No other forklift truck 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 forklift trucks 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.



options

- Powerful diesel and LPG engines are proven to industrial standard and comply with latest emission control regulations.
- Fully floating powertrain with two-speed forward and one-speed reverse transmission maximises gradeability and travel speed, minimises noise and vibration, and uses maintenance-free gears instead of belts to lower running costs.
- Integrated Presence System (IPS) prevents all movement of the truck and its mast if the operator is not seated, as well as providing a seatbelt warning light and parking brake alarm.



# GRENDÍA ES

# diesel and LPG counterbalance 4 wheel pneumatic tyres





High-strength mast



Adjustable steering column



Rear grip & horn button (optional)



Powerful diesel and LPG engines

- Operator identification system can be activated – if owner wishes – to prevent unauthorised use of the truck.
- Heavy-duty, high-visibility masts give dependable, durable performance and clear forward view, for handling of heavy loads in tough environments with total confidence.
- Robust construction has been designed and rigorously tested to ensure high stability, rigidity and protection.
- Stylish but purposeful design reflects this machine's intention to work productively, nonstop, whatever the conditions.
- Rugged rear axle assembly with metal bush mounts (instead of competitors' more fragile rubber mounts) is extremely durable.
- Clear, informative meter panel includes essential warning lights and LCD display with speedometer, clock and hour meter.
- Long service interval and choice of highquality components, together with lowmaintenance design, minimises downtime and cost of ownership.

- Onboard diagnostics and detailed fault diagnosis via computer or laptop connection alerts operators and service engineers to problems, speeds up servicing and prevents damage.
- RapidAccess features give quick and easy entry to all areas for checks and servicing.
- All-round visibility together with ergonomic design and layout of all controls improves comfort, reduces fatigue, increases precision and raises productivity.
- Low noise level at operator's ear and low vibration from powertrain increase comfort and reduce fatigue.
- Adjustable steering column with memory function helps guarantee optimum driving position, every time.
- Fully adjustable, full-suspension seat with hip restraints and safety belt keeps driver comfortable through the longest of shifts.
- Powerful drum brake system gives excellent control with little effort and is easy to maintain.



# GRENDÍA EX

## diesel and LPG counterbalance 4 wheel pneumatic tyres



#### **Designed to perform... built to last**









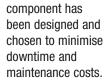
Automotive-style controls

The effectiveness and legendary reliability of Mitsubishi 4 and 5 tonne IC engine forklift trucks has been proved over many years in the most demanding of applications. **Generations of forklift truck owners** have grown to love and depend upon these tough and highly capable machines. GRENDIA EX builds on

those exceptional qualities

Environmentally friendly, and with the quality, reliability and investment value you would associate with diamonds, its name - meaning 'Green Diamond' – is truly deserved.

Low noise and vibration, a comfortable operating environment and the latest ErgoCentric developments in steering, hydraulic and other controls will all be welcomed by operators. Meanwhile, the IPS2 Integrated Presence System 2 and advanced brake systems will help ensure that they stay safe. And as always, every system and





- Oil-cooled wet disc brakes and FlexControl intelligent truck protection package
- ProCab luxury tiltable cabin
- VersaCab range of panel cabins
- Fingertip hydraulic controls
- LED front/rear combination lights

# capacities FD/FG45N FD/FG50CN FD/FG55N FD/FG55N

- Stylish, purposeful design reflects this machine's power to work productively, nonstop, whatever the conditions.
- Industrially proved diesel engine is ultrareliable and durable, as well as smooth and economical, and easily complies with emission control regulations.
- Advanced LPG engine with 3-way catalytic converter delivers precisely controlled performance, high fuel economy and very low emissions.
- Fully floating powertrain with two-speed forward and one-speed reverse transmission maximises gradeability and travel speed, minimises noise and vibration, and uses maintenance-free gears instead of belts to lower running costs.





# GRENDÍA EX

# diesel and LPG counterbalance 4 wheel pneumatic tyres





Front LED working lights (optional)







Convenient handbrake button

- Market-leading *ErgoCentric* design results in easy on-off access, user-friendly controls, a practical layout and great all-round visibility for maximum precision and productivity.
- Strong, high-visibility mast allows handling of heavy loads in tough environments with total confidence.
- Wide range of high-quality masts and attachments delivers precise compatibility and an ideal configuration for each application.
- RapidAccess features give unequalled ease of entry to all areas for checks and maintenance.
- Integrated Presence System 2 (IPS2) pioneered by Mitsubishi prevents all movement of the truck and its mast if the operator is not seated, as well as providing a seatbelt warning light and an automatic parking brake with alarm.
- Optional fingertip hydraulic controls with integrated, fully adjustable, high-comfort armrest (an award-winning concept) allows effortless precision.
- Hydraulic control levers are easy to reach

- Adjustable transmission shift timing increases versatility, for optimum performance in a wide variety of applications.
- Large diameter drive axle shafts are extremely durable and require little maintenance.
- Long service interval and long life of components reduces downtime and associated costs.
- Low noise level at operator's ear and low vibration from powertrain increases comfort and reduces fatique.
- Operator identification system can be activated – if owner wishes – to prevent unauthorised use of the truck.
- Clear and comprehensive instrument panel with LCD display keeps operator and manager fully informed of, for example, speed, time, engine hours, service intervals and faults - to optimise productivity, truck life and safety.



# non-stop action... whatever the weather



## VersaCab panel cabin versatile weatherproofing



From a simple but effective roofonly option to a totally enclosed and air-conditioned steel structure, the VersaCab range of panel cabins offers a variety of flexible configurations.

Custom-designed to fit our trucks perfectly, VersaCabs are stylish in appearance and can be removed in minutes whenever the weather is more suited to open-air operation.

# ergonomic luxury

ProCab tiltable cabin

In developing the ProCab fully floating, tiltable cabin we have created a space in which the operator will feel appreciated and work effectively.

Behind its attractive appearance lie many ergonomic features designed to make life easier. Set on floating rubber mounts, the cabin interior is effectively insulated against vibration... as well as the weather. And thanks to its simple tilting mechanism, and the exceptionally wide access it allows, service engineers will



#### **ProCab** standard specifications include:

- high-quality, water-tight and draught-proof seals
- easy-open/easy-close doors, windows and locks
- high-strength frames with minimal obstruction of operator's view
- washers and wipers
- interior light
- luxury seat
- brackets, spaces and wiring if required for installation of audio/video/computer equipment.
- choice of heating system with inbuilt filter or full air conditioning or climate control system options.

#### **VersaCab** options include:

#### high-visibility overhead guard roof



A protective steel shield and tough but transparent polycarbonate plate give a clear view of raised forks and loads.

#### laminated glass front screen



Equipped with a wash/wipe system, this screen can be added to the high-visibility overhead guard roof option.

#### tempered glass rear window



This package adds a hingeopening rear window, with wash/wipe, and roll-up PVC side windows/doors to the other options.

#### steel doors and sliding windows



In the top-spec cabins, roll-up doors/windows are replaced by steel doors and sliding windows. Heating or air conditioning can also be specified.

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# the best just gets better...

Mitsubishi Forklift Trucks will probably be unique to you. For although so many advanced features are fitted as standard, there is still an amazing number of additional options you can choose.

We know that no two customers are exactly alike - that's why your next Whether it's a Dust-Plus Protection Package or a custom paint finish in your company's colours... there are literally hundreds of ways in which your truck can be tailored to give you precisely the performance and equipment you need.





The intelligent *FlexControl* protection system allows your operator to achieve dynamic performance... effortlessly and safely. FlexControl is part of an option package\* for high-intensity applications that includes oil-cooled disc brakes.

The benefits of **FlexControl** include:

#### hill hold

When manoeuvring on ramps. FlexControl's 'hill hold' system automatically prevents the truck from rolling if the accelerator pedal is released when the operator applies the brake pedal for more than 0.5 seconds.



#### auto deceleration

While travelling at speed, release of the accelerator pedal activates **FlexControl**'s 'auto deceleration' system – which gently slows the truck down without bringing it to a complete halt.

#### controlled power reversal

When changing from forward and reverse while travelling too fast, 'controlled power reversal' delays the change until speed has sufficiently reduced - saving wear on transmission components and tyres.

#### smooth start

To avoid 'wheelspin' starts from standstill, FlexControl's 'smooth start' system ensures optimum engine revs before the transmission is engaged.

\* The FlexControl option package is available on all GRENDIA EX models.

### **Fingertip** control ergonomic precision



When Mitsubishi developed its first fingertip control units for forklift trucks nearly two decades ago, its designers were able to draw on a strong heritage in fly-by-wire technology gained through its aerospace activities.

Today, after many generations of design improvements, the award-winning Mitsubishi fingertip control system is considered by many to be the best in the materials handing industry. Ideal for applications where precise control and the ultimate in driver ergonomics are needed, it can even be operated using heavy, protective gloves.

The latest version offers:

- fully adjustable armrest ensuring optimum position and comfort for operator's wrist.
- up to four fingertip levers, for up to four hydraulic functions.
- additional button commands if required for other functions.
- programmable sensitivity to meet needs of different applications and operators.
- high-visibility emergency stop button for added safety.

#### **Dust-Plus Protection Package** clean confidence



For dusty or other harsh environments we can fit special filters and covers to protect your engine and other systems from contamination and damage. The package includes an extra indicator to warn when the filter needs replacing.

The full package comprises:

- tilt cylinder covers to protect the tilt cylinders from dust accumulation.
- dustproof breather for front axle and tank to prevent contamination of axle oil.
- ventilated front axle. allowing air to move in and out as the axle oil heats up and cools down.
- line filter for torque converter to filter particles from
- universal joint cover to protect transmission from damage by debris and objects on the floor.
- air cleaner with sensor and dust warning device, activated when pressure drop over filter drops below a set level.

## **Clogging Prevention Package** cool performance



For applications where particles and fibres might cloq radiators and cause overheating, we can fit a high-speed fan and an easy-clean radiator net to catch and remove contaminants. An extra indicator to warn when the filter needs replacing is also included.

The full package comprises:

- **high-speed fan** to maximise air flow through radiator.
- easy-clean radiator net to prevent lint, paper fibres, cotton, dry powder and other contaminants from accumulating.
- air cleaner with sensor and dust warning device. activated when pressure drop over filter drops below a set level.

#### other **GRENDIA** options include:

## wide choice of tyres

Using the correct tvre can make a big difference to performance – and operator safety. Solid, solid pneumatic, non-marking... we always have

the right tyre!

#### wide range of masts and carriages

Our own comprehensive mast range is renowned for high visibility and rigidity. Our integral sideshift carriage option ensures great performance with any attachment

type.

#### wide choice of attachments

every possible specialist attachment vou could need. In each case we ensure that the attachment is perfectly

compatible with your equipment.

We can supply

## lighting kits

For see-and-beseen safety, you can choose from a number of options including powerful LED front working lights and front/rear combination lights.

#### **Custom Shop Modification**

Custom paintwork in your own company colours... weighing equipment and indicators... cameras... RFID stock control systems... speed limiter...

...we can supply all these options and hundreds more through our **Custom Shop** 

**Modification** program – ask your local Mitsubishi dealer for details.





# a comprehensive range...

# with Mitsubishi quality



Whether you are looking for counterbalance trucks, warehouse equipment or a mixture of both, the comprehensive Mitsubishi range has everything you need. The performance, quality and reliability of Mitsubishi counterbalance trucks is unbeatable - and so is the choice of models and configurations.

Capacities from 1.0 to 16.0 tonnes, diesel, LPG and electric power sources, different chassis sizes, pneumatic, cushion and other tyres, a range of masts... and many more specialised options. Whatever your application, your local Mitsubishi dealer will find the truck that's ideal for you.

The exceptional qualities and high standards that make Mitsubishi counterbalance trucks the world's favourites are found equally in our complete range of warehouse products. Unless they deliver performance, value, innovative design, inbuilt safety and total reliability, they can't be Mitsubishi forklift trucks.

From pallet trucks, stackers and order pickers to reach, multi-way and turret trucks, our advanced features and remarkable variety of models and options ensure that your local dealer can supply you with the perfect solution to every imaginable handling and storage situation.

#### Diesel **Counterbalance Trucks**



Ranging from our flagship 1.5 to 3.5 tonne models, through our ever popular 4.0 to 5.5 tonne trucks, to 'gentle giants' with capacities of 6.0 to 7.0 or 8.0 to 16.0 tonnes, our diesel counterbalance engineering blends power and durability with operating economy, ergonomics and environmental friendliness.

#### **LPG Counterbalance Trucks**



The sophisticated engine technology of our LPG counterbalance trucks, together with advanced design in every other component and system, delivers high efficiency and low emissions. You can choose capacities from 1.5 to 3.5 tonnes or 4.0 to 5.5 tonnes with pneumatic tyres, while cushion tyre trucks are available at 2.0 to 3.3 tonnes and 3.5 to 7.0 tonnes.

#### **Electric 3 Wheel Counterbalance Trucks**



Innovative design and advanced electronic technology make our electric counterbalance trucks unbeatable for performance, user-friendliness and sheer flexibility. Our 1.0 to 1.5 tonne and 1.6 to 2.0 tonne 3 wheel models are popular choices for use in the tightest of spaces, thanks to their exceptional manoeuvrability.

#### **Electric 4 Wheel Counterbalance Trucks**



Whether you choose 3 wheels or 4 wheels, the same advanced engineering applies. We have 4 wheel pneumatic tyre electric counterbalance trucks at capacities of 1.6 to 2.0 tonnes, 2.0 to 3.5 tonnes and 4.0 to 5.0 tonnes, as well as cushion tyre models at capacities from 1.5 to 3.0 tonnes.

#### **Powered Pallet Trucks**



Our powered pallet truck family ranges from versatile pedestrian and platform models to stand-on and sit-on machines designed for long distances and extended shifts. It also includes a double pallet handler that will carry your loads two deep.

#### **Stackers**



Within our stacker family you will find capacities up to 2.0 tonnes and maximum lift heights up to 6.3 metres. A choice of pedestrian, platform, stand-on and sit-on versions is available to meet your particular needs.

#### **Reach, Multi-Way** and Turret Trucks



Our family of reach, multi-way and turret trucks offers a number of specialised handling solutions: reach trucks lifting as high as 11.5 metres; multi-way trucks, ideal for handling long loads in narrow spaces, with a maximum lift of 9.0 metres; and turret trucks, lifting to 9.0 metres and able to operate in aisles as narrow as 1700 mm.

#### **Order Pickers**



The trucks in our order picker family include a variety of low level order pickers, with a choice of tiller arm or steering wheel control, as well high level order pickers that can work at an amazing 11.5 metres.



















# when **reliability** is **everything...**











Like any product bearing the Mitsubishi name, our materials handling equipment benefits from the huge resources and cutting-edge technology of one of the world's largest corporations. So when we promise you **quality**, **reliability** and **value for money**, you know it's a guarantee we have the power to deliver.

Every model in our comprehensive, award-winning range of forklift trucks and warehouse equipment is built to a high specification and is designed to keep on working for you... day after day... year after year... whatever the job... whatever the conditions.

To ensure your truck stays in constant productive action, we have a network of local dealers – hand-picked for their commitment to customer care... and backed up by the Mitsubishi Forklift Trucks organisation. No matter where you are, we have a dealer close by – ready and willing to meet your needs.

That friendly local service covers everything from identifying the perfect model and configuration for your application to providing competitive, flexible finance and maintenance packages, unbeatable warranties, long and short term hire, and highly responsive field service and repairs... as well as the industry's quickest and most reliable parts supply.

Only Mitsubishi can give you this combination of global engineering excellence and outstanding local support... only Mitsubishi offers you such a quality product at such an affordable price... and only Mitsubishi places reliability as high as you do in its priorities. Contact your local dealer now and see what Mitsubishi can do for you.

You can find your nearest dealer at www.mitforklift.com

The term 'Integrated Presence System' (IPS) is intended as a trading style, only to describe a number of design features on the Mitsubishi trucks to which IPS is applied. It does not imply that the truck can be driven without appropriate operator training and without due care and attention. The manufacturer (MCFE, Almere, the Netherlands) cannot accept any responsibility for any accidents or damage caused by incorrect or dangerous use of its equipment.

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 distributor of Mitsubishi forklift trucks. Mitsubishi follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.

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