



GRENDIA



Internal Combustion Pneumatic Tyre 1.5-3.5 ton



CENTRALIZED MAINTENANCE POINTS FOR EASY INSPECTION AND MAINTENANCE

Inspection and maintenance is made easy thanks to a fully extendable engine hood, removable side covers and centralized maintenance points. In addition, the time intervals between oil changes and lubrication requirements have been increased, resulting in lower maintenance costs.



Mitsubishi

GRENDIA

Series Forklift Trucks

SETTING NEW STANDARDS



FGE15N

Electronically controlled gasoline engine
Capacity rating 1500kg @ 500mm load center

A next generation, higher performance machine

Thanks to the application of new technologies the Mitsubishi Grendia is not only easier to operate but friendly to the environment as well.

The new Mitsubishi Grendia's engine is very fuel-efficient and has ultra low emissions, which either complies with or exceeds the latest international environmental standards. In addition to its newly designed engine, Mitsubishi Forklift Trucks has increased rider comfort and enhanced safety. For instance, all Grendia forklift trucks incorporate an Integrated Presence System (IPS), which enhances safety and helps reduce accidents. LCD graphic displays and digital monitoring systems also make the Grendia safer more efficient.

It's the forklift of tomorrow that's available today.



FD25N

Diesel engine
Capacity rating 2500kg @ 500mm load center



**MEETS THE ENVIRONMENTAL REQUIREMENTS
OF TODAY AND TOMORROW**

GRENDIA'S ECO-POWER



Electronically controlled gasoline engine GK25E



Three-way catalytic muffler

NEW 2007 EMISSION STANDARDS COMPLIANT*: NEW ELECTRONICALLY CONTROLLED GASOLINE ENGINE

Mitsubishi Grendia's advanced gasoline engine, which helped pioneer the standard use of electronically controlled fuel injection and three-way catalytic converters in forklift trucks, has evolved even further. The new Grendia has achieved remarkable environmental controls and complies with all 2007 Emission Standards while still maintaining high performance and reliability levels.

* 2007 Emissions Standard for Specific Special Vehicles (including off-road vehicles)

Compliant with Emissions Standard for Specific Special Vehicles

Ministry of the Environment

Ministry of Economy, Trade and Industry

Ministry of Land, Infrastructure and Transport



SPEED

H

L

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.

* Standard for Electronically Controlled Gasoline Engine Trucks

POWER

SOFT

POWER/SOFT MODE SWITCH

Depending on the task, two power levels can be selected: POWER mode, which maximizes 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.

* Standard for Electronically Controlled Gasoline Engine Trucks

2007 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 with the 2007 Emission Standards without compromising horsepower or reliability.

* 2007 Emissions Standard for Specific Special Vehicles (including off-road vehicles)

Compliant with Emissions Standard for Specific Special Vehicles

Ministry of the Environment

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Swirl-chamber diesel engine S4S



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)

STEERING SYNCHRONIZER

With full hydrostatic steering, steering is easy but hard to keep the truck straight without continuously adjusting the steering wheel. Such operation is difficult when truck has to work in confined space like containers. With steering synchronizer, the system actively checks and eliminates the misalignments to keep the truck straight without constantly adjusting the steering wheel.

With Steering Synchroniser

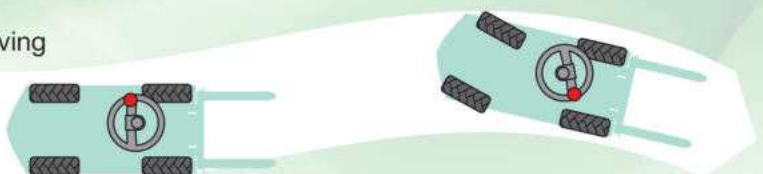
TRAVEL DIRECTION



Without Steering Synchroniser

* Difficulty in maintaining a straight line while driving

TRAVEL DIRECTION



"SAFETY"

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.



NEW INTEGRATED DIGITAL MONITORS

In the cab, digital displays are used to provide easier monitoring of systems and controls. The digital panel illuminates when the ignition is switched on allowing speed, load weight and system monitors to be checked at a glance.



VEHICLE SPEED DISPLAY



LOAD WEIGHT DISPLAY



optional

MAST AND TRAVEL INTERLOCK

Mitsubishi Grendia forklift trucks 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 trucks 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.



FIRST™

— **YET ANOTHER GRENDIA HALLMARK**

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.



WIDE FORWARD VISIBILITY CLEAR REAR VISIBILITY

Unlike some forklift trucks, Mitsubishi Grendias 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.

HIGH-MOUNTED REAR COMBINATION LAMP

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

* Positions will differ for forklifts requiring vehicle inspection in Japan.



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.

EXCELLENT PERFORMANCE

POWERFUL LIFTING CAPACITY

Mitsubishi Grendias are constructed with a low center of gravity frame that optimised 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.



EXCELLENT LIFTING ABILITY

Lift speed: **640mm/s** (when loaded)
660mm/s (when not loaded) • FGE25ZN

No capacity deration up to a height of 4 meters (2-stage mast)

SOFT LANDINGS

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

* only for two-stage masts

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 due-servo system.

SMOOTH ACCELERATION

10m acceleration **3.1 seconds**
(unloaded) • FD25N



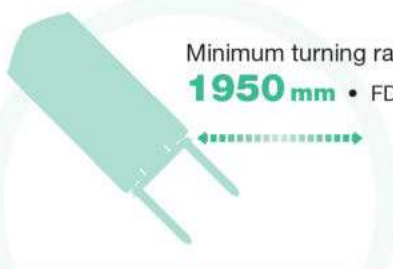
POWERFUL UPHILL ABILITY

12 degree uphill velocity
5.0 km/h (unloaded) • FD25N



EXCELLENT STEERING ABILITY

Minimum turning radius
1950 mm • FD15N



GRENDIAS ARE EASY TO MANEUVER EVEN IN CRAMPED WAREHOUSES AND DELIVERY BAYS

Right angle stacking aisle width
3650 mm • FD15N



EASY OPERATION. DRIVER COMFORT.



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.



Inching pedal allows delicate movements.



Electric shift lever can be moved back and forth at the touch of a finger. (for torque-converter models only).



Switches for optional functions positioned on the right side of the dashboard.

OPTIONAL



Acrylic roof for comfortable operation in outdoor conditions. Easily installed and uninstalled.



Combination switch integrating indicators and headlight switches.



Tiltable steering column



Power-train full floating structure for excellent vibration reduction. The entire power-train is supported by vibration absorbent rubber mounts.



Fully hydraulic power steering
The full hydraulic steering allows for effortless steering even if truck is in a stationary position.

SPECIFICATIONS

CHARACTERISTICS

Type of Truck			DIESEL ENGINE TRUCK						
Model			FD15N	FD18N	FD20CN	FD20N	FD25N	FD30N	FD35N
Loading Capacity	kg		1500	1750	2000		2500	3000	3500
Load Center	mm		500		500			500	

PERFORMANCE

Maximum Fork Height	mm	A	3000		3000			3000		
Free Fork Height	mm	B	115		120	140		145		
Speeds	Lifting	Loaded	mm/s	630		630			500	420
		Unloaded	mm/s	690		650	660		530	450
	Lowering	Loaded	mm/s	520		520	500		530	420
		Unloaded	mm/s	500		500			500	400
Tilt	Mast	Forward	deg	6		6			6	
		Backward	deg	12		12			12	
Speeds	Traveling (Powershift)	Loaded	km/h	19		19			19	
		Unloaded	km/h	19.5		19.5			19.5	
	Traveling (Manual)	Loaded	km/h	19		19			19	
		Unloaded	km/h	19.5		19.5			19.5	
Maximum Drawbar Pull	Powershift	Loaded	kgf	1260	1250	1210	1830	1810	1770	1680
	Manual	Loaded	kgf	1180	1160	1130	1500	1480	1460	1380
Maximum Gradeability	Powershift	Loaded	%	33	29	25	36	31	25	21
	Manual	Loaded	%	30	27	23	29	24	20	17
Turning Radius	mm	C	1950	1980	2020	2200	2230	2380	2440	
Practical Intersecting Aisle Width	mm		2065	2080	2105	2195	2215	2325	2365	
Practical Aisle for Right Angle Stacking	mm		3650	3680	3735	3955	3985	4170	4230	

DIMENSIONS

Overall Length	mm	D	3180	3220	3275	3405	3480	3805	3865
Width	with Standard Tires	mm	E	1065	1065	1150		1275	1290
	with Optional Duals	mm		1330	-	1480		1490	
Height	with Lowered Mast	mm	F	1990	1990			2015	2130
	with Extended Mast (with Backrest)	mm	G	4055	4055			4055	
	to Top of Overhead Guard	mm	H	2065	2065	2074		2093	2103
Forks (Thickness x Width x Length)	mm	I	35x100x920		45x100x920			45x122x1070	
Fork Spread (Out-to-Out Minimum / Maximum)	mm	J	200-920		244-920	244-1000		244-1000	
Front Overhang (Center of Front Axle to Fork Face)	mm	K	400		415	455		490	
Wheelbase	mm	L	1400		1400	1600		1700	
Tread Width	Front, standard tires	mm	M	890	890	960		1060	
	Front, optional duals	mm		1025	-	1140		1140	
	Rear tyres	mm	N	900	900	980		980	
Ground Clearance	at Lowest point outer mast	mm		110	110	115		135	150
	at Center of Wheelbase	mm		150	150	160		190	200
Tyre Size	Size Front, standard		6.50-10-10-PR		6.50-10/5.00	7.00-12-12PR		28x9-15-12PR	250-15-16PR
	Size Front, optional dual		4.50-12-8-PR		-	5.50-15-8PR		6.00-15-10PR	
	Size Rear		5.00-8-8-PR		5.00-8/3.00	6.00-9-10PR		6.50-10-10PR	6.50-10-12PR

WEIGHT

Empty	Powershift (standard)	kg	2550	2740	3060	3410	3710	4350	4740
	Manual (standard)	kg	2590	2780	3100	3450	3750	4390	4780
	Powershift (optional dual)	kg	2590	2780	-	3500	3800	4390	4770
	Manual (optional dual)	kg	2630	2820	-	3540	3840	4430	4810

BRAKE

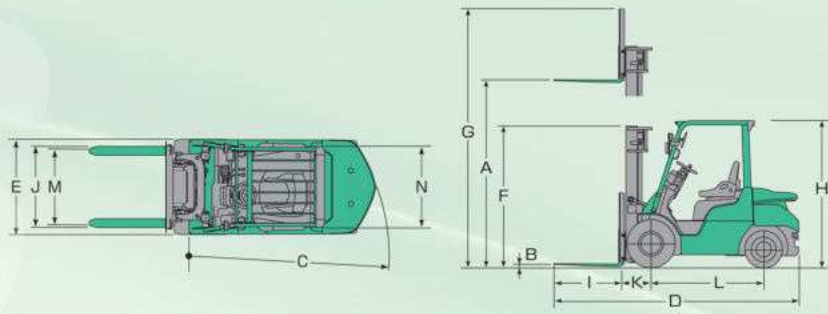
Service Brake			Hyd.		Hyd.			Hyd.	
Parking Brake			Hand		Hand			Hand	

POWERTRAIN

Engine	Model		S4Q2		S4Q2	S4S		S4S	
	Max. Rated Power / rpm to DIN 70020	Kw/rpm	30 / 2500		30 / 2500	38.1 / 2250		38.1 / 2250	
		ps/rpm	40.8 / 2500		40.8 / 2500	51.8 / 2250		51.8 / 2250	
	Max. Rated Torque / rpm to DIN 70020	Nm/rpm	131 / 1800		131 / 1800	185 / 1700		185 / 1700	
		kgm/rpm	13.4 / 1800		13.4 / 1800	18.9 / 1700		18.9 / 1700	
	Displacement	cc	2505		2505	3331		3331	
Fuel Tank Capacity	l	46		46	66		66		
Transmission	Type		Powershift / Manual		Powershift / Manual			Powershift / Manual	
	Number of Speeds		AT:1 / MT:2		AT:1 / MT:2			AT:1 / MT:2	
Relief Pressure	For Attachments	Mpa	18.1		18.1			18.1	

SPECIFICATIONS

GASOLINE ENGINE TRUCK									
FG15N	FG15ZN	FG18N	FG18ZN	FG20CN	FG20N	FG20ZN	FG25N	FG25ZN	
1500		1750			2000			2500	
500				500					
3000					3000				
115				120	140			145	
490	570	490	570	570	520	580	520	580	
560	650	560	650	650	600	660	600	660	
520				520	500				
500				500					
6				6					
12				12					
19				19					
19.5				19.5					
19				19					
19.5				19.5					
1110	1530	1090	1520	1480	1520	1750	1500	1730	
960	1280	950	1270	1230	1280	1620	1250	1590	
29	41	25	36	31	30	35	25	30	
24	33	22	29	25	25	32	21	27	
1950		1980		2020	2200		2230		
2065		2080		2105	2195		2215		
3650		3680		3735	3955		3985		
3180		3220		3275	3405		3480		
1065				1065	1150				
1330				--	1480				
1990				1990					
4055				4055					
2065				2065	2074				
35x100x920				45x100x920					
200-920				220-920	220-1000				
400				415	455		460		
1400				1400			1600		
890				890			960		
1025				--			1140		
900				--			980		
110				110			115		
150				150			160		
6.50-10-10-PR				6.50-10/5.00		7.00-12-12PR			
4.50-12-8-PR				--		5.50-15-8PR			
5.00-8-8-PR				5.00-8/3.00		6.00-9-10PR			
2490		2690		3010	3300	3600			
2530		2730		3050	3340	3640			
2530		2730		--	3390	3690			
2570		2770		--	3430	3730			
Hyd.					Hyd.				
Hand					Hand				
GK15	GK21	GK15	GK21	GK21	GK25	GK21	GK25		
26 / 2450	34 / 2200	26 / 2450	34 / 2200	34 / 2200	40 / 2200	34 / 2200	40 / 2200		
35.4 / 2450	46.2 / 2200	35.4 / 2450	46.2 / 2200	46.2 / 2200	54.4 / 2200	46.2 / 2200	54.4 / 2200		
109 / 2000	158 / 1600	109 / 2000	158 / 1600	158 / 1600	186 / 1600	158 / 1600	186 / 1600		
11.1 / 2000	16.1 / 1600	11.1 / 2000	16.1 / 1600	16.1 / 1600	19.0 / 1600	16.1 / 1600	19.0 / 1600		
1486	2065	1486	2065	2065	2488	2065	2488		
46				46	66				
Powershift / Manual					Powershift / Manual				
AT:1 / MT:2					AT:1 / MT:2				
18.1					18.1				



ELECTRONICALLY CONTROLLED GASOLINE ENGINE TRUCK

FG30N	FG35N	FGE15N	FGE18N	FGE20CN	FGE20N	FGE20ZN	FGE25N	FGE25ZN	FGE30N	FGE35N
3000	3500	1500	1750		2000		2500		3000	3500
500		500				500				500
3000		3000				3000				3000
145		115		120		140				145
460	390	630		630		580	640	580	640	510 430
530	450	650		650		590	660	590	660	530 440
530	420	520		520		500		500		530 420
500	400	500				500				500 400
6		6				6				6
12		12				12				12
19		19				19				19
19.5		19.5				19.5				19.5
19		19				19				19
19.5		19.5				19.5				19.5
1710	1630	1710		1670	1690	1860	1690	1870	1860	1750
1590	1500	1390	1380	1360	1390	1630	1380	1620	1660	1560
24	20	48	42	36	34	38	29	33	27	22
22	19	38	34	29	28	33	24	28	24	20
2380	2440	1950	1980	2020	2200		2230		2380	2440
2325	2365	2065	2080	2105	2195		2215		2325	2365
4170	4230	3650	3680	3735	3955		3985		4170	4230
3805	3865	3180	3220	3275		3405		3480	3805	3865
1275	1290	1065		1065		1150		1150		1275 1290
1490		1330		-		1480		1480		1490 1490
2015	2130	1990		1990		1990		1990		2015 2130
4055		4055		4055		4055		4055		4055
2093	2103	2065		2065		2074		2074		2093 2103
45x122x1070		35x100x920		45x100x920		45x100x920		45x100x920		45x122x100
250-1000		200-920		244-920		244-1000		244-1000		244-1000
495		400		415		455		455		490
1700		1400		1400		1600		1600		1700
1060		890		890		960		960		1060
1140		1025		-		1140		1140		1140
980		900		900		980		980		980
135	150	110		110		115		115		135 150
190	200	150		150		160		160		190 200
28x9-15-12PR	250-15-16PR	6.50-10-10-PR		6.50-10 / 5.00		7.00-12-12PR		7.00-12-12PR		28x9-15-12PR 250-15-16PR
6.00-15-10PR		4.50-12-8-PR		-		5.50-15-8PR		5.50-15-8PR		6.00-15-10PR
6.50-10-10PR	6.50-10-12PR	5.00-8-8-PR		5.00-8 / 3.00		6.00-9-10PR		6.00-9-10PR		6.50-10-10PR 6.50-10-12PR
4240	4630	2490	2690	3010		3300		3600	4240	4630
4280	4670	2530	2730	3050		3340		3640	4280	4670
4280	4660	2530	2730	-		3390		3690	4280	4660
4320	4700	2570	2770	-		3430		3730	4320	4700
Hyd.		Hyd.				Hyd.			Hyd.	
Hand		Hand				Hand			Hand	
GK25		GK21E		GK21E		GK25E		GK21E	GK25E	GK25E
40 / 2200		(GAS) 36.8 / 2700 (LPG) 37.5 / 2700		(GAS) 36.8 / 2700 (LPG) 37.5 / 2700		(GAS) 43.1 / 2700 (LPG) 43.8 / 2700		(GAS) 36.8 / 2700 (LPG) 37.5 / 2700	(GAS) 43.1 / 2700 (LPG) 43.8 / 2700	(GAS) 43.1 / 2700 (LPG) 43.8 / 2700
54.4 / 2200		(GAS) 50.0 / 2700 (LPG) 51.0 / 2700		(GAS) 50.0 / 2700 (LPG) 51.0 / 2700		(GAS) 58.6 / 2700 (LPG) 59.6 / 2700		(GAS) 50.0 / 2700 (LPG) 51.0 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700
186 / 1600		(GAS) 145 / 1800 (LPG) 151 / 1800		(GAS) 145 / 1800 (LPG) 151 / 1800		(GAS) 167 / 1600 (LPG) 186 / 1600		(GAS) 145 / 1800 (LPG) 151 / 1800	(GAS) 167 / 1600 (LPG) 186 / 1600	(GAS) 167 / 1600 (LPG) 186 / 1600
19.0 / 1600		(GAS) 14.8 / 1800 (LPG) 15.4 / 1800		(GAS) 14.8 / 1800 (LPG) 15.4 / 1800		(GAS) 17.0 / 1600 (LPG) 19.0 / 1600		(GAS) 14.8 / 1800 (LPG) 15.4 / 1800	(GAS) 17.0 / 1600 (LPG) 19.0 / 1600	(GAS) 17.0 / 1600 (LPG) 19.0 / 1600
2488		2065		2065		2488		2065	2488	2488
66		46		46		66		46	66	66
Powershift / Manual		Powershift		Powershift		Powershift		Powershift	Powershift	Powershift
AT:1 / MT:2		AT:1		AT:1		AT:1		AT:1	AT:1	AT:1
18.1		18.1		18.1		18.1		18.1	18.1	18.1

Ready to Perform To Your Applications



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