



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.



GRENDIA

*Ready to Perform
To Your Applications*



www.mitforklift.com.sg

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PRESENTED BY :

Note: 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 Mitsubishi forklift truck dealers. Mitsubishi Forklift Trucks follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.

Internal Combustion Pneumatic Tyre 1.5-3.5 ton

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.



MOVING AHEAD

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

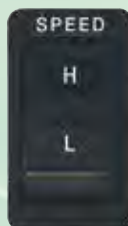


Three-way catalytic muffler

**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.

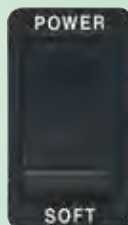
* 2007 Emissions Standard for Specific Special Vehicles (including off-road vehicles)
Compliant with Emissions Standard for Specific Special Vehicles
Ministry of the Environment
Ministry of Economy, Trade and Industry
Ministry of Land, Infrastructure and Transport



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 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
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Swirl-chamber diesel engine S4S



LOW-NOISE DESIGN FOR MAXIMUM COMFORT WITH MINIMAL OPERATOR FATIGUE

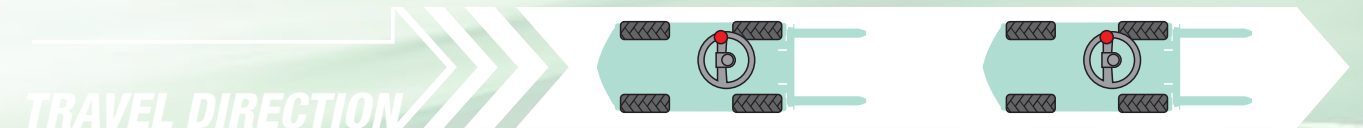
With features such as low-noise engine, enhanced soundproofing of the engine compartment and floor level noise dampening, Mitsubishi Forklift Trucks has achieved a quiet working environment both for the operator and the surrounding working environment.

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

STEERING SYNCHRONIZER

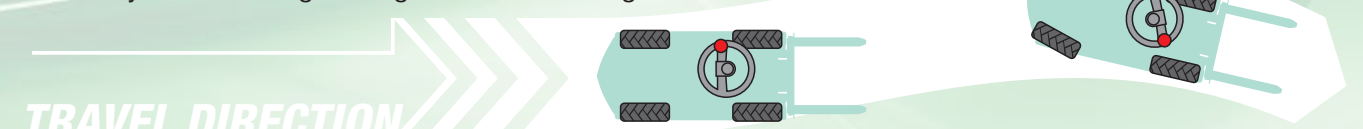
With full hydrostatic steering, steering is easy but hard to keep the truck straight without continuously adjusting the steering wheel. Such operation is difficult when truck has to work in confined space like containers. With steering synchronizer, the system actively checks and eliminates the misalignments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

With Steering Synchroniser



Without Steering Synchroniser

* Difficulty in maintaining a straight line while driving



"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.



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.



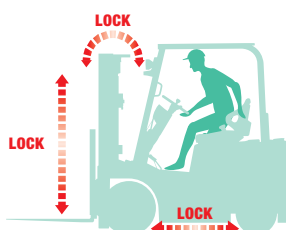
VEHICLE SPEED DISPLAY



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.

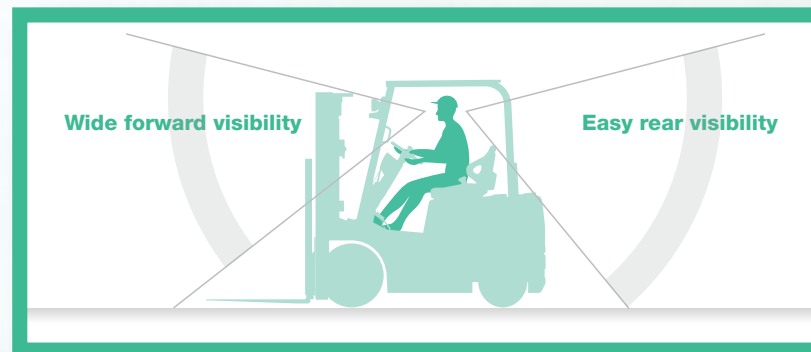
LIFT LOCK

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.

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.

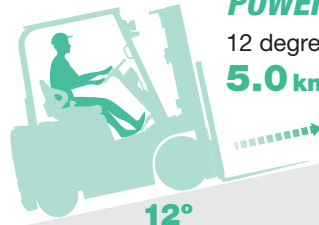
SMOOTH ACCELERATION

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



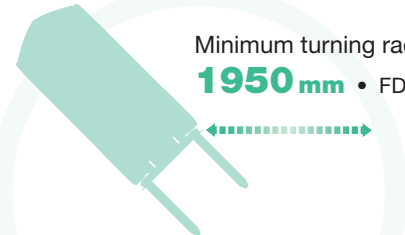
POWERFUL UPHILL ABILITY

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.



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



Combination switch integrating indicators and headlight switches.



Tiltable steering column

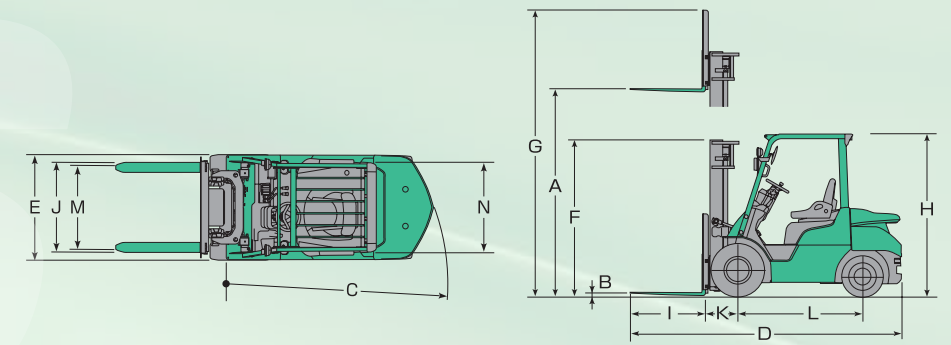


Power-train full floating structure for excellent vibration reduction. The entire power-train is supported by vibration absorbent rubber mounts.



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

SPECIFICATIONS



CHARACTERISTICS				DIESEL ENGINE TRUCK										GASOLINE ENGINE TRUCK										ELECTRONICALLY CONTROLLED GASOLINE ENGINE TRUCK											
Type of Truck																																			
Model				FD15N	FD18N	FD20CN	FD20N	FD25N	FD30N	FD35N	FG15N	FG15ZN	FG18N	FG18ZN	FG20CN	FG20N	FG20ZN	FG25N	FG25ZN	FG30N	FG35N	FGE15N	FGE18N	FGE20CN	FGE20N	FGE20ZN	FGE25N	FGE25ZN	FGE30N	FGE35N					
Loading Capacity				1500	1750	2000	2500	3000	3500	1500		1750		2000		2500		3000	3500	1500	1750	2000		2500		3000	3500								
Load Center				500	500				500		500		500		500		500		500		500		500		500		500								
PERFORMANCE																																			
Maximum Fork Height				mm	A	3000				3000				3000				3000				3000				3000				3000					
Free Fork Height				mm	B	115		120		140		145		115		120		140		145		145		115		120		140		145					
Speeds	Lifting	Loaded	mm/s	630		630		500	420	490	570	490	570	570	520	580	520	580	460	390	630		630	580	640	580	640	510	430						
		Unloaded	mm/s	690		660		530	450	560	650	560	650	650	600	660	600	660	530	450	650		650	590	660	590	660	530	440						
	Lowering	Loaded	mm/s	520		500		530	420	520		520		500		530		420		520		520		500		530		420							
		Unloaded	mm/s	500		500		500	400	500		500		500		500		400		500		500		500		500		400							
Tilt	Mast	Forward	deg	6		6		6		6		6		6		6		6		6		6		6		6		6							
		Backward	deg	12		12		12		12		12		12		12		12		12		12		12		12		12							
Speeds	Traveling (Powershift)	Loaded	km/h	19		19		19	19	19		19		19		19		19		19		19		19		19		19							
		Unloaded	km/h	19.5		19.5		19.5	19.5	19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5							
	Traveling (Manual)	Loaded	km/h	19		19		19	19	19		19		19		19		19		19		19		19		19		19							
		Unloaded	km/h	19.5		19.5		19.5	19.5	19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5		19.5							
Maximum Drawbar Pull	Powershift	Loaded	kgf	1260	1250	1210	1830	1810	1770	1680	1110	1530	1090	1520	1480	1520	1750	1500	1730	1710	1630	1710		1670	1690	1860	1690	1870	1860	1750					
	Manual	Loaded	kgf	1180	1160	1130	1500	1480	1460	1380	960	1280	950	1270	1230	1280	1620	1250	1590	1590	1500	1390	1380	1360	1390	1630	1380	1620	1660	1560					
Maximum Gradeability	Powershift	Loaded	%	33	29	25	36	31	25	21	29	41	25	36	31	30	35	25	30	24	20	48	42	36	34	38	29	33	27	22					
	Manual	Loaded	%	30	27	23	29	24	20	17	24	33	22	29	25	25	32	21	27	22	19	38	34	29	28	33	24	28	24	20					
Turning Radius				mm	C	1950	1980	2020	2200	2230	2380	2440	1950	33	22	1980	2020	2200	2230	2380	2440	1950	1980	2020	2200	2230	2380	2440	1950	2440					
Practical Intersecting Aisle Width				mm	2065		2080	2105	2195	2215	2325	2365	2065	2080	2105	2195	2215	2325	2365	2065	2080	2105	2195	2215	2325	2365	2065	2080	2105	2195	2365				
Practical Aisle for Right Angle Stacking				mm	3650		3680	3735	3955	3985	4170	4230	3650	3680	3735	3955	3985	4170	4230	3650	3680	3735	3955	3985	4170	4230	3650	3680	3735	3955	4230				
DIMENSIONS																																			
Overall Length				mm	D	3180	3220	3275	3405	3480	3805	3865	3180	3220	3275	3405	3480	3805	3865	3180	3220	3275	3405	3480	3805	3865	3180	3220	3275	3405	3480	3805	3865		
Width	with Standard Tires		mm	E	1065	1065	1150		1275	1290	1065	1065	1150		1275	1290	1065	1065	1065		1065	1150		1275	1290	1065	1065	1150		1275	1290				
	with Optional Duals		mm		1330	--	1480		1490		--	--	1480		1490		--	--	1490		--	--	1480		1490		--	--	1490		1490				
Height	with Lowered Mast		mm	F	1990	1990	1990		2015	2130	1990	1990	1990		2015	2130	1990	1990	1990		1990	1990		2015	2130	1990	1990	1990		2015	2130				
	with Extended Mast (with Backrest)		mm	G	4055	4055	4055		4055		4055	4055	4055		4055		4055	4055	4055		4055	4055	4055		4055		4055	4055	4055		4055				
to Top of Overhead Guard				mm	H	2065	2065	2074		2093	2103	2065	2065	2074		2093	2103	2065	2065	2065		2065	2065		2093	2103	2065	2065	2074		2093	2103			
Forks (Thickness x Width x Length)				mm	I	35x100x920		45x100x920		45x122x1070		35x100x920		45x100x920		45x122x1070		35x100x920		45x122x1070		35x100x920		45x100x920		45x122x1070		35x100x920		45x122x1070					
Fork Spread (Out-to-Out Minimum / Maximum)				mm	J	200-920	244-920	244-1000		200-920		220-920	220-920	220-1000		250-1000		200-920		244-920		244-1000		244-1000		244-1000		244-1000		244-1000					
Front Overhang (Center of Front Axle to Fork Face)				mm	K	400	415	455	490	400	400	415	455	460	495	495	460	495	495	460	495	495	460	495	495	460	495	495	460	495	495				
Wheelbase				mm	L	1400	1400	1600	1700	1400	1400	1600	1700	1400	1400	1600	1700	1400	1400	1600	1700	1400	1400	1600	1700	1400	1400	1600	1700	1400	1400				
Tread Width	Front, standard tires		mm	M	890	890	960	1060	890	890	960	1060	890	890	960	1060	890	890	960	1060	890	890	960	1060	890	890	960	1060	890	890					
	Front, optional duals		mm		1025	--	1140	1140	1025	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140	--	1140				
Ground Clearance	Rear tyres		mm	N	900	900	980	980	900	980	900	980	900	980	900	980	900	980	900	980	900	980	900	980	900	980	900	980	900	980					
	at Lowest point outer mast		mm		110	110	115	135	150	110	110	115	135	150	110	110	115	135	150	110	110	115	135	150	110	110	115	135	150	110	110				
Tyre Size	at Center of Wheelbase		mm		150	150	160	190	200	150	150	160	190	200	150	150	160	190	200	150	150	160	190	200	150	150	160	190	200	150	150				
	Size Front, standard	Size Front, optional dual			6.50-10-10-PR	6.50-10-5.00	7.00-12-12PR	28x9-15-12PR	250-15-16PR	6.50-10-10-PR	6.50-10-5.00	7.00-12-12PR	28x9-15-12PR	250-15-16PR	6.50-10-10-PR	6.50-10-5.00	7.00-12-12PR	28x9-15-12PR	250-15-16PR	6.50-10-10-PR	6.50-10-5.00	7.00-12-12PR	28x9-15-12PR	250-15-16PR	6.50-10-10-PR	6.50-10-5.00	7.00-12-12PR	28x9-15-12PR	250-15-16PR	6.50-10-10-PR	6.50-10-12PR				
Size Rear				5.00-8-8-PR	5.00-8/3.00	6.00-9-10PR	6.50-10-10PR	6.50-10-12PR	5.00-8-8-PR	5.00-8/3.00	6.00-9-10PR	6.50-10-10PR	6.50-10-12PR	5.00-8-8-PR	5.00-8/3.00	6.00-9-10PR	6.50-10-10PR	6.50-10-12PR	5.00-8-8-PR	5.00-8/3.00	6.00-9-10PR	6.50-10-10PR	6.50-10-12PR	5.00-8-8-PR	5.00-8/3.00	6.00-9-10PR	6.50-10-10PR	6.50-10-12PR	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	2490	2690	3010	3300	3600	4240	4630	2490	2690	3010	3300	3600	4240	4630	2490	2690	3010	3300	3600	4240	4630			
	Manual (standard)		kg		2590	2780	3100	3450	3750	4390	4780	2530	2730	3050	3340	3640	4280	4670	2530	2730	3050	3340	3640	4280	4670	2530	2730	3050	3340	3640	4280	4670			
	Powershift (optional dual)		kg		2590	2780	--	3500	3800	4390	4770	2530	2730	--	3390	3690	4280	4660	2530	2730	--	3390	3690	4280	4660	2530	2730	--	3390	3690	4280	4660			
	Manual (optional dual)		kg		2630	2820	--	3540	3840	4430	4810	2570	2770	--	3430	3730	4320	4700	2570	2770	--	3430	3730	4320	4700	2570	2770	--	3430	3730	4320	4700			
BRAKE																																			
Service Brake						Hyd.			Hyd.			Hyd.			Hyd.			Hyd.			Hyd.			Hyd.			Hyd.			Hyd.			Hyd.		
Parking Brake						Hand			Hand			Hand			Hand			Hand			Hand			Hand			Hand			Hand			Hand		
POWERTRAIN																																			
Engine	Model				S4Q2	S4Q2	S4S	S4S	GK15	GK21	GK15	GK21	GK21	GK25	GK21	GK25	GK25	GK25	GK21E	GK21E	GK25E	GK21E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E	GK25E		
	Max. Rated Power / rpm to DIN 70020		Kw/rpm		30 / 2500	30 / 2500	38.1 / 2250	38.1 / 2250	26 / 2450	34 / 2200	26 / 2450	34 / 2200	34 / 2200	40 / 2200	34 / 2200	40 / 2200	40 / 2200	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) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700	(GAS) 58.6 / 2700 (LPG) 59.6 / 2700			
			ps/rpm		40.8 / 2500	40.8 / 2500	51.8 / 2250	51.8 / 2250	35.4 / 2450</																										